

# SCIENTIFIC WONDERS

ON THE EARTH  
& IN SPACE



Yusuf Al-Hajj Ahmad

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## Scientific Wonders on the Earth & in Space





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the Most Gracious, the Most Merciful*

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## Author's Note

All praise is due to Allah. We praise Him and we seek for His assistance and forgiveness. We seek refuge with Him from the evils of our own souls and from our misdeeds. No one can mislead whomever Allah guides and no one can guide whomever Allah causes to go astray.

I testify that there is no deity worthy of worship except Allah. He is One and He has no partner. I also testify that Muhammad is His Slave and Messenger. Allah sent him with the religion of guidance so that it may prevail over all other religions even if the disbelievers dislike that.

Speaking about scientific miracles has become a necessity these days, as knowledge has made great and rapid strides that cannot be stopped even for a moment. Everyday there are new inventions and astounding discoveries. All this strengthens a Believer's faith and increases confusion in the confused person.

Allah has blessed me with collecting all the conclusions that have been arrived at by the leaders in this art of scientific and medical miracles. I, then, decided that this compilation should comprehensively include every topic relating to miracles either from the Qur'an or from the authentic *Sunnah*. Some repetitions may be found in this work due to some benefits such as considering the differences in the scholars' methodologies of writing about one topic. The wisdom of this may be found in the popular saying: "You might find in a stream what you might not find in a sea."

Dear reader, on my part I have selected for you the most comprehensive, most authentic, most modern and most beautiful of these proofs. For the purpose of authentication, some of the specialists in these fields have shared their knowledge with me. I would mention, as an example, Dr. Muhammad Harb, a specialist obstetrician and gynecologist and Jihad 'Inayah and Mahir Kabab, who are both pharmacists. I am very grateful to them.

There is no doubt that this work that you are reading, as a first

step on what the modern science has arrived at in our contemporary times, has already been mentioned in the Qur'an and mentioned by the Messenger of Allah, peace be upon him, more than 1,400 years ago. This is certainly not going to be the end either. There shall continue to be more and more discoveries that will show humanity that the Qur'an is truly Allah's Word. Allah says about the Qur'an:

﴿لَا يَأْتِيهِ الْبُطْلُ مِنْ بَيْنِ يَدَيْهِ وَلَا مِنْ خَلْفِهِ، نَزِيلٌ مِنْ حَكِيمٍ حَمِيدٍ﴾

"Falsehood cannot come to it from before it or behind it; (it is) sent down by the All-Wise, Worthy of all praise (Allah, Glorified and Exalted be He)." (Soorah Fussilat 41:42)

He also says:

﴿وَمَا يَنْطَلِقُ عَنِ الْهَوَىٰ ۚ إِنْ هُوَ إِلَّا وَحْيٌ يُوحَىٰ﴾

"Nor does he speak of (his own) desire. It is only a Revelation revealed." (Soorah An-Najm 53:3-4)

This book discusses many topics. The main sections are: Miracles in the Earth and Miracles in astronomy, which are the most important topics discussed in this work. I beseech Allah to make all that I have collected and written to make a reminder for those who have sound hearts, the ability to listen and have presence of mind, and to make it purely for His sake and to benefit me and the Muslims as a whole with it. Indeed, He has power over all things and He is worthy of accepting prayers. All praise is due to Allah, the Lord of the worlds. May the blessings and peace of Allah be upon our leader Muhammad, his family and his Companions.

Servant of the *Sunnah*  
Yusuf Al-Hajj Ahmad

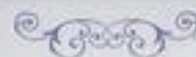




## The Scientific Wonders on the Earth

### Section

### 1



## The Scientific Wonders on the Earth

The miracles of the Qur'an regarding our surrounding environment – the seas, land, animals, plants and other inorganic matters – are clear evidences that the Qur'an is the Word of Allah, the Lord who created them.

The Qur'an urges us to ponder over and inquire into the creation on Earth so that they serve as a guide to recognize the Creator, the Disposer of affairs. Verses have followed others encouraging the man to ponder over the Earth and its contents: what is the secret behind this?

Allah, the Most High, says:

﴿لَخَلْقُ السَّمَوَاتِ وَالْأَرْضِ أَكْبَرُ مِنْ خَلْقِ النَّاسِ وَلَٰكِنَّ أَكْثَرَ النَّاسِ لَا يَعْلَمُونَ﴾

"The creation of the heaven and the Earth is indeed greater than the creation of mankind, and yet most mankind know not."  
(Soorah Ghafir 40:57).





## Earth's Movement

Allah, the Most High, says:

﴿وَرَى الْجِبَالَ تَحْطِبًا جَائِدَةً وَهِيَ كَمَرٌ مَرَّ السَّحَابِ  
صُنْعَ اللَّهِ الَّذِي أَتَقَنَ كُلَّ شَيْءٍ إِنَّهُ خَبِيرٌ بِمَا تَفْعَلُونَ﴾

"And you will see the mountains and think them solid but they shall pass away as the passing away of clouds. The work of Allah, Who perfected all things, verily He is Well-Acquainted with what you do."  
(Soorah An-Naml 27:88)

### Historical antecedents:

People had observed in the past that the Earth is stationary and as such, thought that it was the centre of the universe and that it does not move while the celestial bodies including the stars and other bodies move in complex orbits around it called epicycles. This was first proposed by the astronomer and mathematician, Claudius Ptolemaeus, and was accepted for several centuries. Some of the astronomers later studied the movement of the Earth around the sun; and Nicholas Copernicus developed the model indicating that the spheres of the

fixed stars were stationary and that their apparent movements are only due to the movements of the Earth and the non-movement of the sun. However, the radical core of his theory was rejected or ignored.

The Greek philosopher and mathematician, Pythagoras, also mentioned the movement of the Earth but he was not really able to prove the theory. The Italian physicist and astronomer, Galileo Galilei, at the end of the fifteenth century and the early parts of the sixteenth century developed astronomical telescopes with which he studied the movements of the Earth and other stellar movements and also supported the Copernican heliocentric theory of a sun-centered universe. Then came Johannes Kepler in the sixteenth century and presented proofs to establish the movement of the Earth and other celestial bodies.

### Scientific Facts:

1. The Earth moves in two basic ways: spinning movement on its own axis (rotation) and in a circle around the sun (revolution).
2. The Earth rotates on its own axis in a period of (23 hrs 56 min 4.1 sec).
3. The speed of the Earth's movement at the equatorial regions is about 1,670 km/h which is about 465 m/s and it reduces with the latitudes up to 312 m/s at 50 degrees and is completely unnoticed at the poles.
4. Three astronomical phenomena result from the rotation of the Earth on its own axis:
  - a. Day and Night and their succession
  - b. Difference in timing across the Earth's surface
  - c. Induction of a centrifugal force felt strongly at the equatorial regions.





## Scientific Explanation

The Solar System in which we live comprises a firmly connected arrangement which includes the sun and nine planets (currently known) swimming in their different orbits. The Earth is considered the third planet from the sun and it completes its revolution around it in three hundred and sixty days and a quarter.

## Scientific References

The *Encyclopedia of the American Academy of Science* says: The Earth rotates on its axis (spin axis) in the period of a day and revolves around the sun in the period of a year [...] and its average speed during its revolution reaches about 30 [...] The planets in the Solar System also have moons (satellites) that revolve round them of which forty-nine (49) are currently known even when there are strong indications of the occurrence of others particularly around Uranus and Neptune which are both the farthest of the known planets from sun. As for the Earth's moon, it completes one revolution around it in 27 days, 7 hours, 43 minutes increasing as it moves from one similar phase to the other.



The Solar System also makes a part of the large, disk-shaped single aggregation of stars (galaxy) called the Milky Way which contains millions (in fact, billions) of other huge stars each of which also moves on its axis at different speeds. The galaxy rotates around an axis joining the galactic poles and by implication, the sun (one of the billion stars in the galaxy), and its planets also move as the huge mass does. *The World Encyclopedia of Science* says: The sun (which is located in the outer part of the galaxy) takes 200 million years to complete one trip around the centre of the galaxy!

The movement of the Earth round the sun was not known in astronomy until the sixteenth century from the works of the Polish astronomer and mathematician Nicolas Copernicus who developed the heliocentric model of the Solar System, in which the sun is stationary, and the Earth and the known planets move around it, as is mentioned in the *New British Encyclopedia*. This was a clear departure from the prevalent model Ptolemy's model, that the Earth was stationary at the centre of the universe. Thus, the *New British Encyclopedia* says: In the 2<sup>nd</sup> century CE, Ptolemaeus proposed his model of the universe with the Earth at its centre and this model was accepted for more than 1,300 years.

The world waited until Kepler came in the 17<sup>th</sup> century and established the scientific fact that everything in the universe including the moons and stars are in concomitance with it moving on specific paths (orbits).

Looking at the Qur'an, we find that in His saying:

﴿وَرَى الْجِبَالَ تَحْطِبًا جَائِدَةً وَهِيَ تَمُرُّ مَرَّ السَّحَابِ﴾

"And you will see the mountains and think them solid but they shall pass away as the passing away of clouds..."

is a clear evidence that the mountains move as quickly as the clouds but mankind sees them firm and stationary. Here are astronomers saying that the Earth rotates together with the creatures on it – both living and non-living with the same speed. Thus, we would regard the mountains as stationary while in the real sense it rotates with the Earth.



The scientists have given an approximate example of that: if we view two trains running at the same time and in the same direction and with the same speed, the person on any one of them and looking at another person in the second train would think that he is static, motionless. So do we consider the movement of the mountains with respect to the Earth. So, Glorious is He who says:

﴿وَرَى الْجِبَالَ تَحْسَبُهَا جَاوِدَةً وَهِيَ ثَمَرٌ مِّمَّا السَّحَابُ﴾

"And you will see the mountains and think them solid but they shall pass away as the passing away of clouds..."

Hence, each of the sun, the moon and the Earth swim in paths or orbits that are exclusive to each of them.

#### The Point of Wonder

The point of wonder in the Verse of the Qur'an is that the Verse points to the movement of the Earth on the basis of His saying: "...but they shall pass away as the passing away of clouds..." which only became known to science in the 17<sup>th</sup> century CE.

The Glorious Qur'an says the movement of the Earth and the expressions are clear and concise as it is from the Wise and Well-Acquainted leaving nothing to doubt among the people of knowledge. So, He, the Most High, says in a marvellous manner -- the manner of the Qur'an:

﴿وَرَى الْجِبَالَ تَحْسَبُهَا جَاوِدَةً وَهِيَ ثَمَرٌ مِّمَّا السَّحَابُ  
صُنْعَ اللَّهِ الَّذِي أَتَقَنَ كُلُّ شَيْءٍ إِنَّهُ خَبِيرٌ بِمَا تَفْعَلُونَ﴾

"And you will see the mountains and think them solid but they shall pass away as the passing away of clouds. The work of Allah, who perfected all things, verily He is Well-Acquainted with what you do." (Soorah An-Naml 27:88)

The Verse proves that all the bodies that experience gravity (like the mountains and seas and the atmosphere among others) also rotate together with the Earth in its daily rotation on its own axis and its annual revolution around the sun. As a result of it, about a half of the

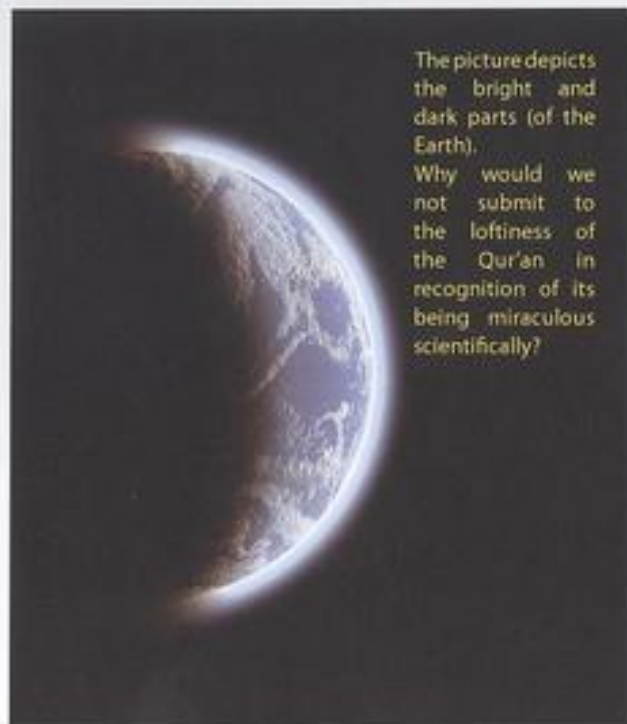
Earth experiences darkness in the night while about the other half witnesses daylight due to the Earth's rotation. However, this movement is not directly perceived because it is like the movement of the clouds in the sky. The Appearance of the Day

The modern-day science has made it known that the night covers half of the Earth. And the rest of it where the day appears is the atmosphere covering the Earth which is like a thin peel; like a tenuous skin. When the Earth moves, the thin rays of daylight which were formed due to the reversal of the rays from the sun appear over various areas in the atmosphere bringing about the daylight. Thus the movement of the Earth brings about the appearance of the day from the night. And Allah, the Most High, says:

﴿وَأَيُّةٌ لَهُمُ اللَّيْلُ نَسْلَخُ مِنْهُ النَّهَارَ فَإِذَا هُمْ مُظْلِمُونَ﴾

"And a sign for them is the night. We withdraw therefrom the day and behold they are in darkness." (Soorah Ya Seen 36:37).

(Kitaab ut-Tawheed Al-Khaaliq, vol 1, by Abdul Majeed az-Zindaanee)



The picture depicts the bright and dark parts (of the Earth). Why would we not submit to the loftiness of the Qur'an in recognition of its being miraculous scientifically?





## Earth's Gravity

Allah – the Most High – in *Soorah al-Mursalaat* said:

﴿أَلَمْ نَجْعَلِ الْأَرْضَ كِفَاتًا ۝ أَحْيَاءَ وَأَمْوَاتًا﴾

"Have We not made the Earth a receptacle for the living and the dead?" (*Soorah Mursalaat* 77:25-26).

The word *Kifatan* is derived from the verb *Ka-fa-ta - Yak-fi-tu* – meaning, to attract it and grab it and bind it. So, one of the attributes of the Earth is that it attracts, grabs and binds. These Verses clearly point to the gravity. Thus, everything on the Earth is attracted to it, and the true weight of objects is their force of attraction toward the Earth which is also related to the mass of the Earth.

An object that weighs a hundred kilogram on Earth weighs a sixth of that on the moon; a man whose weight on Earth is sixty kilogram would only weigh ten kilogram on the moon! So, the weight of an



object is its gravity toward the Earth and the weight of an object on the moon is its gravity toward the centre of the moon. Allah, Most High, says:

﴿أَلَمْ نَجْعَلِ الْأَرْضَ كِفَاتًا ۝ أَحْيَاءَ وَأَمْوَاتًا﴾

"Have We not made the Earth a receptacle for the living and the dead?"

Now, the points to ponder are how would life be without gravity? How would water settle on the surface of the Earth without gravity? And how will the atmosphere remain attached to the Earth without gravity? Were it not that the Earth pulls the atmosphere to itself, the latter would have been still while the Earth moves. And with the movement of the Earth and the stillness of the atmosphere, some huge currents of high velocity winds (hurricanes or cyclones, etc.) of more than a thousand and six hundred kilometers per hour and capable of destroying everything on the Earth would arise! Who made the

atmosphere attracted to the Earth? It is certainly the gravitational pull. And who made the seas attached to the Earth by the impact of the gravitational pull?

The state of weightlessness is very difficult to bear.

Allah, Mighty and Sublime, says:

﴿أَمْ مَنْ جَعَلَ الْأَرْضَ قَرَارًا﴾

"Is not He Who has made the Earth as a fixed abode...?"  
(Soorah An-Naml 27:62)

So, He, Most High, made it rotational and yet stable and made things on it steady and attracted to it; something which would be impossible without the gravitational pull. Some had thought that in the end, man will be pulled toward the Earth to be buried in it but Allah, Almighty, says:

﴿أَلَمْ نَجْعَلِ الْأَرْضَ كِفَاتًا ۖ أَحْيَاءَ وَأَمْوَاتًا﴾

"Have We not made the Earth a receptacle for the living and the dead?"

Thus, the living is also attached to the Earth and attracted to it (as well as the dead) which refers to his weight on it.

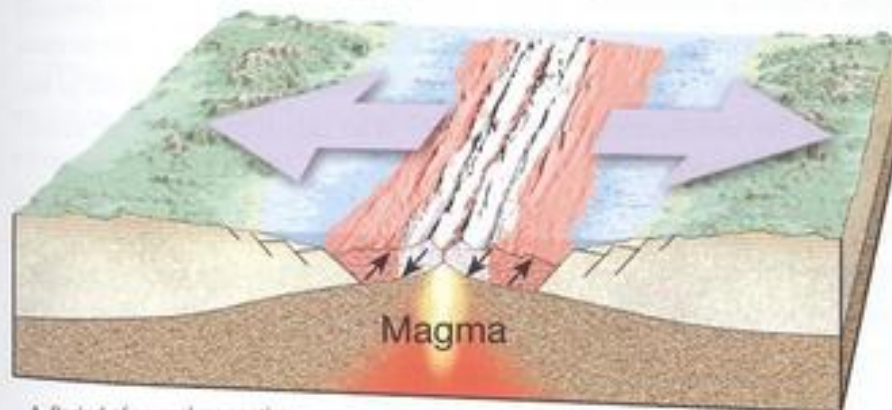
(Al-Fajr al-3mee by An-Nablusee)



## Haphazard Zigzag Motion

Shaikh Zindaani said: At one of the important world summits of scientists in Islamabad, one of the botanists in his paper said: A Verse in the Qur'an which informed us of some facts more than 1,400 years ago is only known to us today. He said that in 1827 C.E., the British botanist Robert Brown discovered that when rainwater drops on the ground, the particles (of the subsurface rock) are stirred – that is, its tiny particles (very small particles of diameters no greater than 200mm) begin a haphazard zigzag motion. These tiny grains vary in size and composition reflecting some closely packed layering in such a way that when the water drops on it, it ionizes the particles whose properties are a function of their original chemical composition.

The ionization (being dissociated into ions: an ion is an atom or group of atoms that loses an electron and is as such called a negative ion or gains an electron and is referred to as positive ion) agitates the particles and water percolates into the interstices agitating the particles further. This haphazard zigzag motion has great benefits in that it



A. Period of normal magnetism



provides spaces within the closely packed layers for water percolation which aids agriculture and also leads to the gradual accumulation of groundwater.

*Rabat* is from *Ribaa'* and *Ribw* - meaning, growth (increment). Even when there is permissible *Riba* (increment) and prohibited *Riba* (interest); the increment here (*Ribw*) refers to the increment in the size due to accumulation of water in the interstices at various levels which gradually lead to the accumulation of groundwater. So, from where do the plants obtain water for a period of two or three months? Surely from these "reservoirs"; the water would sink deep into the ground and the plants would die in a week! Brown said: when the rains drop the granules are stirred...

Who discovered this? Robert Brown in 1827 C.E. and he named this haphazard zigzag motion of the granules - Brownian Motion. This is even when this had existed before Brown! Simple objectivity requires that those who compile the history of science do not mention Brown as the first to speak about this; rather they should say: the first to mention it is the Qur'an as shall be shown below...

Allah, the Mighty and Sublime, says:

﴿وَرَى الْأَرْضَ بَارِيَةً فَلَمَّا أَنْزَلْنَا عَلَيْهَا الْمَاءَ اهْتَزَّتْ وَرَبَتْ وَأَلْبَتَتْ مِنْ كُلِّ ذَوْجٍ يَهْبِجُ﴾

"And you see the Earth barren, but when We send down water it is stirred (to life) and it swells and puts forth every lovely kind (of growth)." (Soorah Al-Hajj 22:5)

Who informed Muhammad, peace and blessings of Allah be upon him, of this precise information? Who informed him of the "secrets" in the oceans and the Earth and various levels of the atmosphere above, the secrets in the heavens, the commencement of creation? Who informed him of all these? Isn't the Qur'an the greatest miracle?

If you were to see the staff of Moosa, peace be upon him, changing to a moving serpent, you would have seen a single Sign but as for the Qur'an all of it are Signs and every Verse in it proves its source: Allah, Most High, says:

﴿قُلْ أَكْبَرُ شَهَادَةٍ عَلَى اللَّهِ شَهِيدٌ بَيْنِي وَبَيْنَكُمْ وَأُوحِيَ إِلَيَّ هَذَا الْقُرْآنُ لِأُنذِرَكُمْ بِهِ وَمَنْ بَلَغَ﴾

"Say (O Muhammad): 'What thing is the greatest in witness?' Say: 'Allah (the Greatest!) is Witness between me and you; this Qur'an has been revealed to me that I may herewith warn you and whomsoever it may reach.'" (Soorah Al-An'am 6:19).

O Allah, I have conveyed (your message), O Allah, bear witness to this!



B. Period of reverse magnetism



C. Period of normal magnetism

Summary:

When water drops on the particles of the soil they vibrate and move in a haphazard zigzag manner meaning that the ground (Earth) vibrates - "it is stirred" and the process of water percolation through the thickness and other dimensions of the particles is increased and so through other particles implying that - "it swells" becoming expanded (as a whole) for the preservation of water necessary for life on Earth. So, the plants and other organisms absorb it and the vegetation germinates from below the Earth's surface through the spread of its roots and tiny root hairs and with that the Earth becomes what - "puts forth (growth)"



and then the germination appears on the Earth's surface, grows bigger and bears fruit as a favor and sustenance for the creatures. All these Verses occur in concordance to an organized arrangement and perfect measure since it is from the making of Allah, Most High, who perfected the creation of all things.

﴿فَانظُرْ إِلَى مَثَلِ رَحْمَتِ اللَّهِ كَيْفَ يُحْيِي الْأَرْضَ بَعْدَ مَوْتِهَا إِنَّ ذَلِكَ لَمُنْحَى الْمَوْقِفِ وَهُوَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ﴾

"Look then at the effects (results) of Allah's Mercy, how He revives the Earth after its death. Verily! That (Allah) Who revived the Earth after its death shall indeed raise the dead (on the Day of Resurrection), and He is Able to do all things." (Soorah Ar-Room 30:50)



## The Excellence of Makkah over other Localities

Allah, Most High, says:

﴿وَلَنُنذِرَ أُمَّ الْقُرَىٰ وَمَنْ حَوْلَهَا﴾

"And so that you may warn the Mother of Towns (i.e. Makkah) and all those around it." (Soorah Al-An'am 6:92).

Imam Ahmad and At-Tirmidhi reported from Abu Hurairah, may Allah be pleased with him, who said: The Prophet, peace and blessings be upon him, stood at Al-Hazwarah and said: "I know that you are the best place on Allah's Earth and the most beloved of it to Allah if not that your natives expelled me from you I would not have left." Abdur-Razzaq said: Al-Hazwarah is by the Hannatin city gate. And the report of At-Tirmidhi from Ibn Abbas, may Allah be pleased with him, says: "The Messenger of Allah, peace and blessings be upon him, said, "How good are you of cities and beloved you are to me! Were it not that my kinsfolk drove me out of you, I would not reside in other than you." Abu 'Eesa said this *Hadith* is *hasan saheeh ghareeb* from this route.

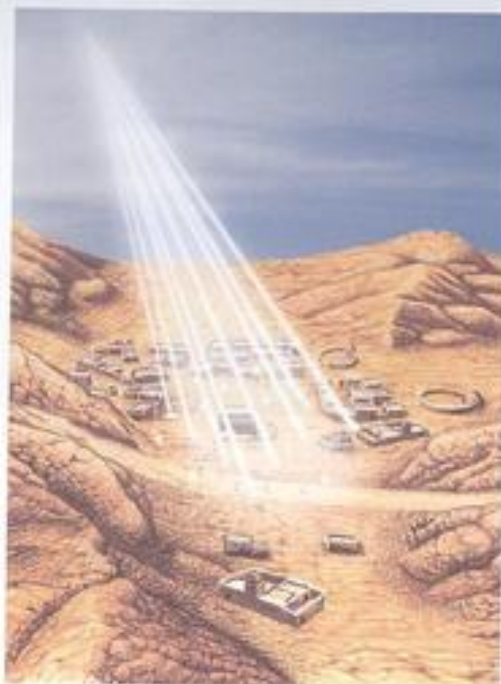


The new scientific discovery which had preoccupied the scientists and was announced in January, 1977 C.E. says: The Honorable city of Makkah is the centre of the terra firma. This newly discovered fact took years of scientific research and depended on complex mathematical charts for which the researchers sought recourse to computer simulations.

The Egyptian scientist, Dr. Husain Kamaluddin, reported the story of the extraordinary discovery, and said that when he started the research, his objective was completely different. He was researching a possible means of assisting everyone no matter where they may be in the world in determining the direction of the *Qiblah* because he found out in the course of his many journeys abroad that this is a main problem faced by every Muslim whenever he is and particularly, in a locality without a mosque or in a foreign land (like it happens to the tens of thousands of foreign students abroad).

Therefore, Kamaluddin thought of making new charts of the terrestrial globe to determine various directions of the *Qiblah* on it. After drawing the initial charts during the preliminary stages of the work to prepare this map and delineating the five continents on it, this discovery became surprisingly clear to him: that the location of the holy city of Makkah is at the centre of the world.

He held an edge of the compass on the location of Makkah and moved the other edge on the edges of all the continents and it became evident to him that the terra firma on the surface of the terrestrial globe is distributed around Makkah in an organized manner. And he found



Makkah – in the given situation – the centre of the terra firma. He prepared the old world map used before the discovery of America and Australia and repeated the procedure and he also found that Makkah is the centre of the world even with respect to the ancient known world when the call to Islam started.

Kamaluddin added: I had started my research by drawing a map from which I can calculate the distance of every location on the Earth from Makkah and then I joined similar lines of longitudes so that I can know how the removal of the lines of longitudes and latitudes will be with respect to the city of Makkah. Thereafter, I delineated the limits of the continents and other details on this grid of lines and the situation required a number of complex mathematical trials and computations with the use of computers in the determination of the distances and the required deviations. The situation also required a computer program to delineate the longitudes and latitudes. Due to this new removal... and by coincidence alone, it was discovered that I should be

able to draw a circle whose centre will be at Makkah and its borderlines outside the six continents and the circumambient of this circle will move relative to the limits of the outer continents.

So, Makkah – by the ordainment of Allah – is the heart of the Earth and this is from what science shows in the discovery of the scientists that it is the centre of convergence of radiating magnetic currents which is supported by a wondrous phenomenon noted by the one who visits Makkah to perform the pilgrimage or the lesser pilgrimage with a repenting heart. He feels he is instinctively attracted to everything in





it – its land, mountains and every pillar in it so much so that he would have been able to deliquesce into its entity, entirely coalesced with his heart. This feeling has persisted since the creation of the Earth.

And the situation with the Earth is similar to that of other planets; it experiences attractions with other planets and stars due to forces generated from its core ...and this core has what can be referred to as currents. And the internal point of convergence was what an American scientist discovered in the field of topography by establishing its occurrence and location geographically, and he was not motivated to that by any religious belief. He started to teach it with greater vigor spending sleepless nights; before him was the map of the world and other equipment. In the end, he discovered – unintentionally – that the centre of the assemblage of the world's currents is Makkah. From this, it becomes clear that the wisdom behind the noble *Hadith* which was based on the statement of Allah:

﴿وَكَذَلِكَ أَوْحَيْنَا إِلَيْكَ قُرْآنًا عَرَبِيًّا لِّنُنذِرَ أُمَّ الْقُرَىٰ وَمَنْ حَوْلَهَا  
وَنُنذِرَ يَوْمَ الْجَمْعِ لَا رَبَّ فِيهِ فَرِيقٌ فِي الْجَنَّةِ وَفَرِيقٌ فِي السَّعِيرِ﴾

"And thus We have inspired unto you (O Muhammad) a Qur'an (in Arabic) that you may warn the Mother of the Towns (Makkah) and all around it. And warn of the Day of Assembling, of which there is no doubt, when a party will be in Paradise (those who believed in Allah and followed what Allah's Messenger brought them) and a party in the blazing Fire (Hell) (those who disbelieved in Allah and followed not what Allah's Messenger brought them)." (Soorah Ash-Shu'ra 42:7).

And as a result, it is easy to understand the Divine reason for the selection of Makkah specifically to be the place of the Sacred House of Allah and the selection of Makkah as the core for the spread of the message of Islam to the whole world; thus it is the scientific miracle, according to the *Hadith*, which expresses the excellence of its location over other places. And Allah, Most High, knows and judges Best.

(Al-I'jaaz al-Tamee fee al-Islam was-Sunnah an-Nabawiyyah – Muhammad Kaamil Abdus-Samad, with some slight additions and adaptations).



## The Arabian Peninsula

Imam Muslim and Ahmad reported from Abu Hurairah that the Messenger of Allah, peace and blessings be upon him, said:

"The Last Hour will not come until the land of the Arabs returns to a pasturage and large stream."

Shaikh Az-Zindani says: The scientist and professor, Alfred Kruz, one of the most famous geologists in the world, attended a geological conference at the Faculty of Earth Sciences at King Abdul Aziz University. I said to him: Do you have any evidence that the Arabian

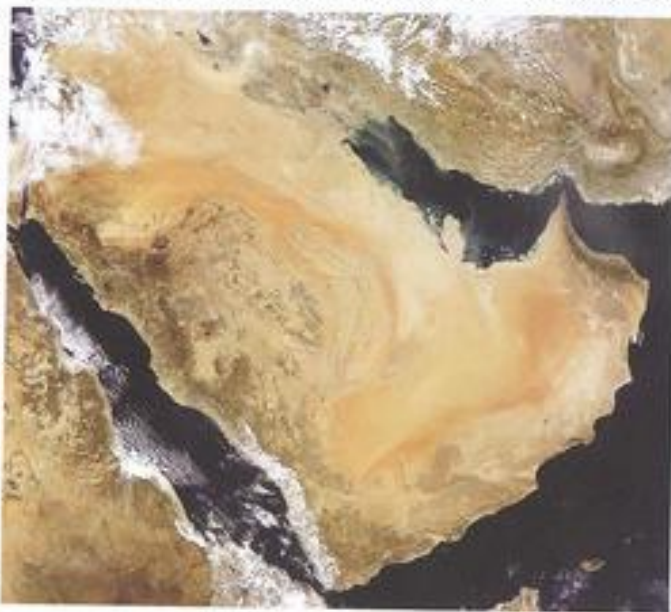


Peninsula – the Arabian subcontinent – was a vegetative land with rivers – this desert that you see was a vegetative land with rivers?

He said: Yes, this is an issue known to us and a scientific fact and the geologists know it for if you dig deep in any area you find evidences that this land was pasturage with large streams and the evidences are many ... Just let me bring one of it to your knowledge – the small town of Faw was discovered from beneath the sands in a deserted area. And there are many evidences about that.

I said to him: Do you have evidence that the Arabian Peninsula will return as a pasturage with large streams? He said: This is an established fact that we geologists know; we measure and estimate it and we are

able to say approximately when that will happen. It is a matter that is not far from you (the Arabs), it is near. I said to him: How is that? He said: Because we have studied the Earth's history in the past and found that it passed



through ages and one of them was the Ice Age. What does the Ice Age mean?

It means that a great quantity of seawater transforms into snow (ice) and slowly accumulates at the northern Polar region and gradually moves southward and during the motion it covers whatever is below it and changes the weather conditions and from the change in weather is that which will happen in the Arabian Peninsula. So, when the weather becomes cold the Arabian Peninsula will become one of the regions in

the world with the most continuous rainfall and many rivers. I used to correlate the torrential streams and rainfall in the Abha region in Saudi Arabia with what happens in Northern Europe.

Shaikh Az-Zindani said: I was considering what he was saying and I said to him: Are you affirming this to us? He said: This is a reality, it is inevitable! I said to him: Listen! Who informed M u h a m m a d , peace and blessings be upon him, regarding this And all this is

mentioned in a *Hadith* reported by Muslim, in which he said: "The Last Hour will not come until the land of the Arabs returns as a pasturage and with large streams." Who told Muhammad, peace and blessings of Allah be upon him, that the land of the Arabs was a pasturage with large streams? He paused and then said: The Romans...

So, I said to him: Who informed him that the land of the Arabs will return as a pasturage and with large streams? He thought deeply



Abha- Saudi Arabia



Northern Europe



and said: From the One above. At this, I said to him: Write... and he wrote: "I am astonished by the scientific facts that I have seen in the Qur'an and *Sunnah* which we were not able to establish except in the latter times with modern scientific methods. This proves that Prophet Muhammad, peace and blessings be upon him, did not get to know this except through Divine revelation."

Az-Zindani said: Honorable brothers, this is the position of a German atheist; my consciousness has multiplied regarding the responsibilities of the Muslims toward their religion and I see the leaders of the world accepting Islam if the facts are presented to them ... not just that they will accept Islam; rather they will enthusiastically propagate it. I wish if there could be serious efforts by the Muslim community and by the Islamic universities, ten years would not go by except that a third of the scientists in the world become Muslims.

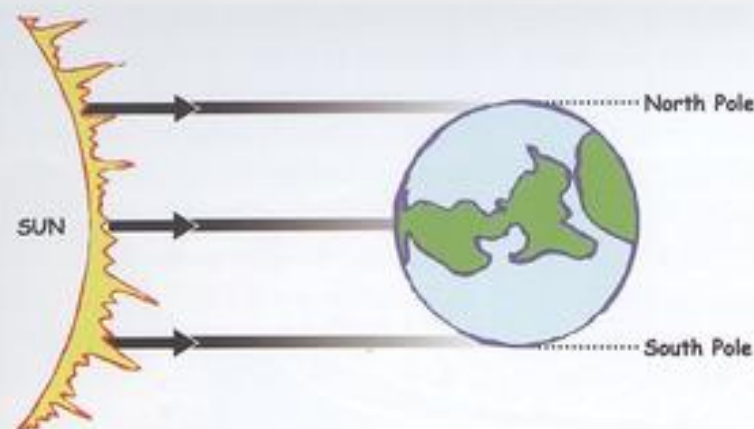
By Allah, we did not spend more than two and half hours together until he said all these things ... and this is one of the scientific marvels. He writes that and affirms it ... This proves that there is only one science, one truth, one Lord and that Muslims have great responsibilities. We have the truth in our hands: a truth, which falsehood cannot approach it from in front of it or from behind it. This is certainly a period where everything submits to science but we are at the beginning of the period of submission of science to Islam and the Qur'an. Allah, Most High, says:

﴿سَرَّيْنَاهُمْ مَا بَيْنَنَا وَبَيْنَ الْآفَاقِ وَفِي أَنْفُسِهِمْ حَتَّىٰ يَتَبَيَّنَ لَهُمْ أَنَّهُ الْحَقُّ  
أَوَلَمْ يَكُنْ بِرَبِّكَ أَنْتَهُ عَلَىٰ كُلِّ شَيْءٍ وَشَهِيدٌ﴾

"We will show them our signs in the universe, and in their own selves until it becomes manifest to them that this (the Qur'an) is the Truth. Is it not sufficient in regard to your Lord that He is a witness over all things?" (Soorah Fussilat 41:53)

(Al-'Im Tareeq of Eemaan by Shaykh Abdul-Majeed az-Zindaanee).

- ♦ This is the future of the desert in the Arabian Peninsula, in southern Egypt and northwestern Sudan and perhaps other deserts in other regions in the world on the same latitude - all of it shall be a part



of a green bed as is contained in previous researches and the saying of the truthful and the trustworthy Prophet, peace and blessings of Allah be upon him. This is what the tremendous changes in the world's climate over hundreds of years inform us, as confirmed by an expert American map analyst and archaeologist in Arizona in America, while researchers were studying the data chart generated by the radar system mounted onboard the space shuttle Columbia. The radar photographs showed the presence of an area under the desert sands in southern Egypt and west of Sudan where the rain does not fall heavily except on an average of once every fifty years but which has ancient large river channels some of which are larger than that of the Nile River.

Recently, some comparative studies have been made on the Arabian Peninsula where astronomical photographs show the presence of the river channel of a giant ancient river covering the peninsula from the west to the east toward Kuwait. Dr. Faarooq Al-Baz, the director of NASA - the agency responsible for developing space exploration and research initiatives - had mentioned the presence of a tremendous amount of atmospheric water in the channel of the ancient river which no doubt occurred on both sides of the river in the Holocene periods (5000 years ago). Harl Malkoor, an American geologist foresees the return of the rivers to the deserts of the Arabian Peninsula and return of the water to the covered rivers.

Modern techniques confirm that the Earth is passing through an Ice Age which would last about a hundred thousand years and thereafter





Riyadh highway passing through desert

will be a period of warmth referred to as an interglacial stage which will last between ten and twenty thousand years. This pattern has been repeated ten times over the last one million years.

The movement of ice in the northern parts – during the ice ages – affected the climate of the Earth leading to the displacement of the ambit of rains in the southward direction. As such, the Arabian Peninsula and the Great Desert (i.e. the Sahara Desert) in northern Africa fell within the ambit of the rain bearing westerly winds which blow in Western Europe. That leads to the flourishing of the desert and it being filled with rivers and fertile valleys.

In the period of warmth between glacial periods, the ambit of the rains moves to the North, and the Arabian Peninsula and northern Africa come within the ambit of the trade winds (when trade winds move over warm tropical waters, they pick up moisture and bring heavy rainfall to the windward-facing slopes of mountainous areas) and it becomes covered by a climate similar to its present climate.

There are a number of evidences for the occurrence of such climatic changes compiled by Professor Austin Miler, the author of the book, *Historical Physiography*, as follows:

- ♦ Specific facts regarding the rains and other climatic evidences (inundation and periods of dryness) and what had been recorded by the earlier researchers like Ptolemy in the second century C.E. in the scrolls of *Meteorology*.
- ♦ The data of freezing of water in some countries like Denmark since 1350 C.E.
- ♦ Difference in the distance between annual cycles to enable the growth of trees; some of the trees are more than about three thousand years old.
- ♦ Availability of evidence indicating agriculture in regions whose climate will not support agriculture.

The theories of the Scottish astronomer, James Kruk, in the nineteenth century postulate these points, which the Serbian geophysicist, Milutin Milankovitch, reiterated after making a few modifications in the year 1941 C.E.

The climatic variations on the Earth have returned to changes that arise in three proportions associated with the movement of the Earth, as reported by the *Magazine for the Scientific Miracles in the Qur'an* in its 6<sup>th</sup> edition in Muharram, 1421 A.H:



The first change was caused by the Earth's revolving around the sun in a circular orbit. Its orientation alters slightly so that it becomes elliptical and then it returns to its circularly motion in an orbit within a hundred thousand years. When the orbit is circular the Earth receives a corresponding magnitude from the sun's heat everyday of the year. But when the orbit is elliptical our planet for some days in the year is closer to the sun and receives more heat from it than the days of another year even when the magnitude of the temperature remains steady.

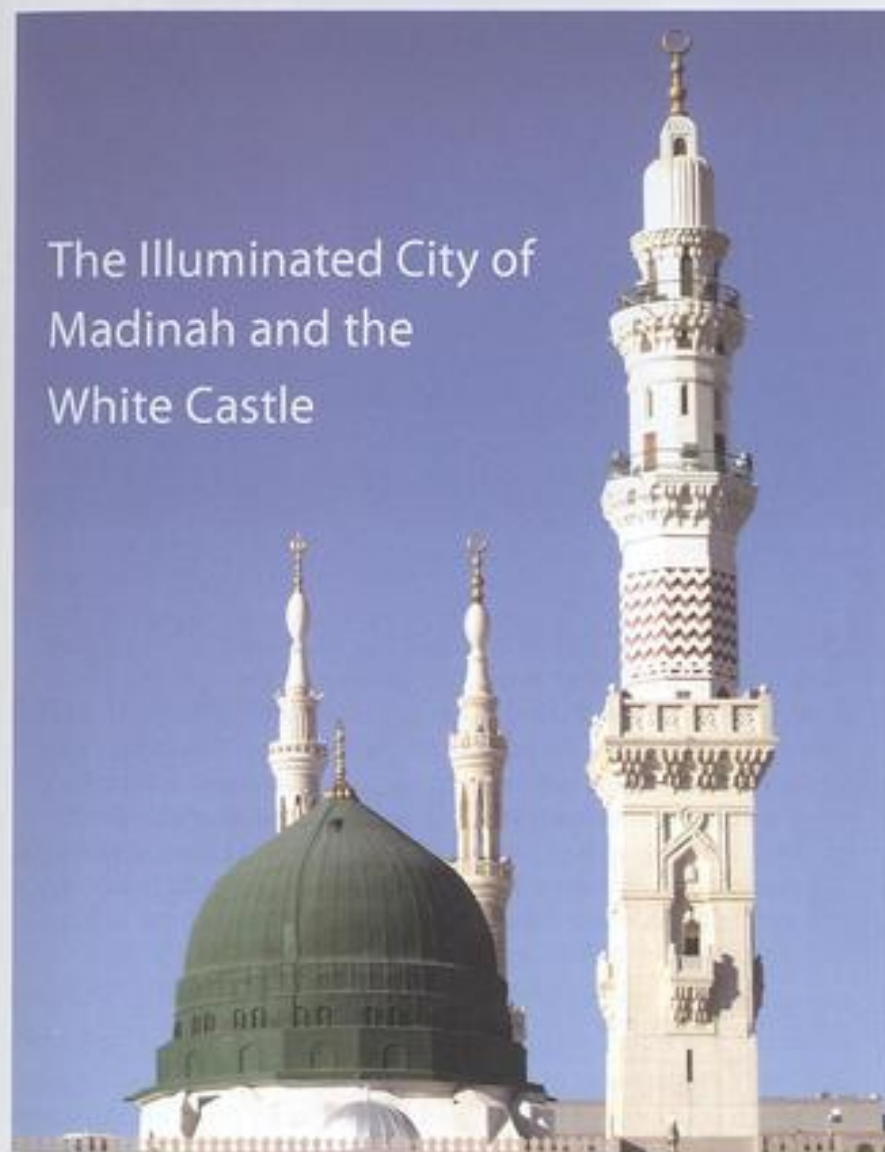
The second change is in the Earth's axis, for the Earth rotates around its axis which is inclined to its orbital plane. This means that if the rotational axis is delineated with the orbital plane, the rotational axis inclines to this plane by an angle which varies between 21 degs and 8 secs and 24 degs and 4 secs in a revolution of forty-one thousand years. This angle now is 23 degs 4 secs and it is still reducing.

The third change is in the movement of the Earth associated with its axis of rotation. This imaginary axis is delineated in space as a circle which is referred to as a procession, and the axis completes its circle in a cycle for twenty-three thousand years.

Allah's Messenger, peace and blessings be upon him, mentioned this reality in the noble *Hadith* where he said: "The Last Hour will not come until the land of the Arabs returns as a pasturage with large streams." (*Saheeh Muslim*). The question remains: who informed Muhammad, peace and blessings of Allah be upon him, regarding all this?



## The Illuminated City of Madinah and the White Castle



Imam Ahmad said: Yens narrated to us, (and Yoonus said), Hammad narrated to us - that is, Ibn Salamah, from Sa'eed Al-Jurayri from Abdullah Ibn Shaqeeq from Mihjan Ibn Al-Adra' that: the Messenger of Allah, peace and blessings of Allah be upon him, admonished the people and said:



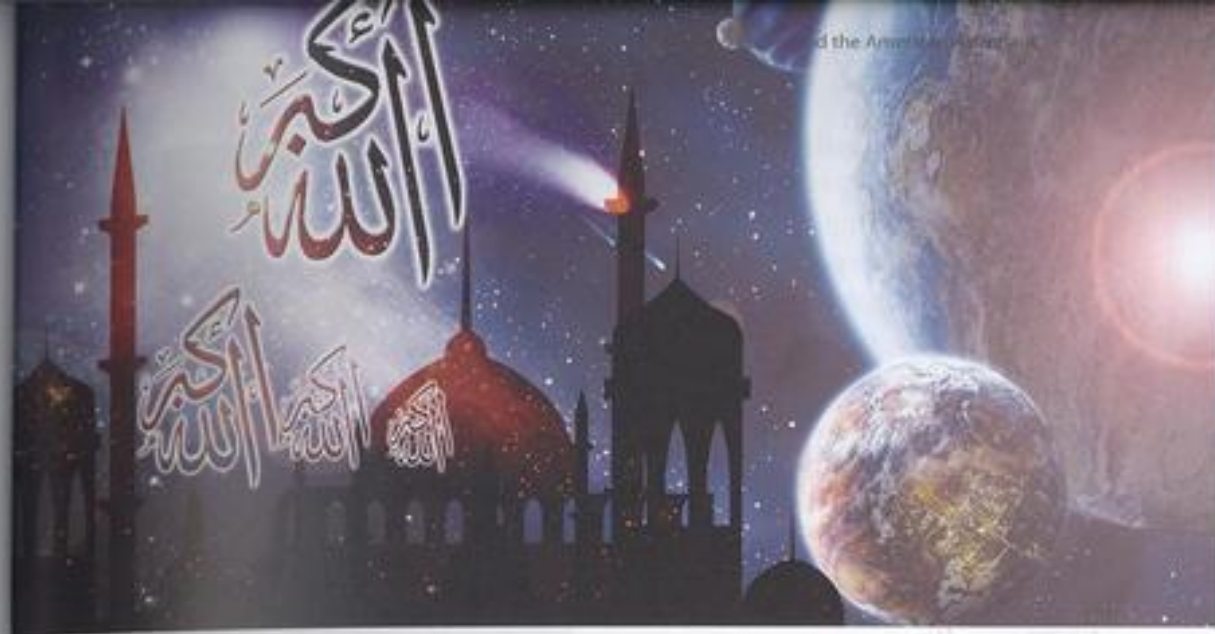


A satellite view of madinah

"The Day of Rescue, and what is the Day of Rescue? (Thrice). And it was said to him: 'What is the Day of Rescue?' He said: The Dajjal shall come and ascend (Mount) Uhud. He will look at Madinah and say to his companions: Do you see this white castle? This is Ahmad's Mosque. And then, he will be coming to Madinah and will find an angel with an unsheathed sword on every of its (mountain) passes. He will go to the marsh of Jurf and hit its pavilion and then, Madinah will shake thrice. And there will not be any male or female hypocrite or a sinful person, male or female except that he comes out to him. And this is the Day of Rescue." (Saheeh li-Gayrehi)

Explanation of the *Hadith*: Sultan, that is, in his hand is a sword unsheathed. It is said: *asalta as-sayf* when he removes it from its sheath. *Naqb*: a way in-between two mountains (a pass). *As-Sabkhal*: a land above which is salt marsh (salina) and where hardly grow plants except for a few trees. *Tarjufu*: The basis of *Ar-Rajf* is *Al-Harakah* (movement) and *Idtiraab* (disturbance), i.e. it vibrates and resonates.

O Muslim, consider the saying of the Dajjal: "This white castle, this is Ahmad's Mosque" and then consider the Prophet's Mosque, this photograph had been taken through satellites and the whiteness is its main characteristic. Ponder over this and say: "I seek refuge in Allah from the trials of the Dajjal."



## The Miracle of the Call to Prayer and the American Astronaut

Abu Sa'eed Al-Khudri, may Allah be pleased with him, said: "The Messenger of Allah, peace and blessings of Allah be upon him, said to me:

"I consider you as the one who loves sheep and the desert, so when you are within your herd or in the desert and you call to prayer, raise your voices, for the extreme limit of the Muezzin's voice is not heard by a Jinn or a man or any other thing except that it bears witness to it on the Day of Resurrection."

That is, the one who hears the extreme limit of the Muezzin's voice or its prolongation will witness to it, what about the one who hears the call to prayer clearly? This bearing of witness indicates its nobility and the degree of its excellence; otherwise, Allah is sufficient as a witness.



## Introduction and Information

The first astronaut to land on the moon, Armstrong, pronounced his being a Muslim and was dismissed from his job and he says: "I lost my job but I found Allah."

The American astronaut, Neil Armstrong, the first man to step on the moon, announced his Islam. This has been published in Malaysian newspapers and a journal published in Ceylon (Sri Lanka) has quoted from it.



American Astronaut, Neil Armstrong

### The story of his (conversion to) Islam, why? and how?

He reported it himself saying: This story dates back to many years while on a visit to Cairo during one of his visits around the world. While Armstrong moved around popular areas in Cairo, he heard the call for the *Dhuhr* prayer from the mosques: "Allah is the Greatest... Allah is the Greatest!" He was astonished and began to ask about the voice.

His companions being surprised at his amazement said: It is the voice of the caller that invites the Muslims to prayer. But the astronaut did not respond to them. After some days, he announced to those around him clearly and without hesitation that

the statements of the call to prayer that rang in his ears, which he did not understand, were the same words he had heard when he had stepped on the moon for the first time!

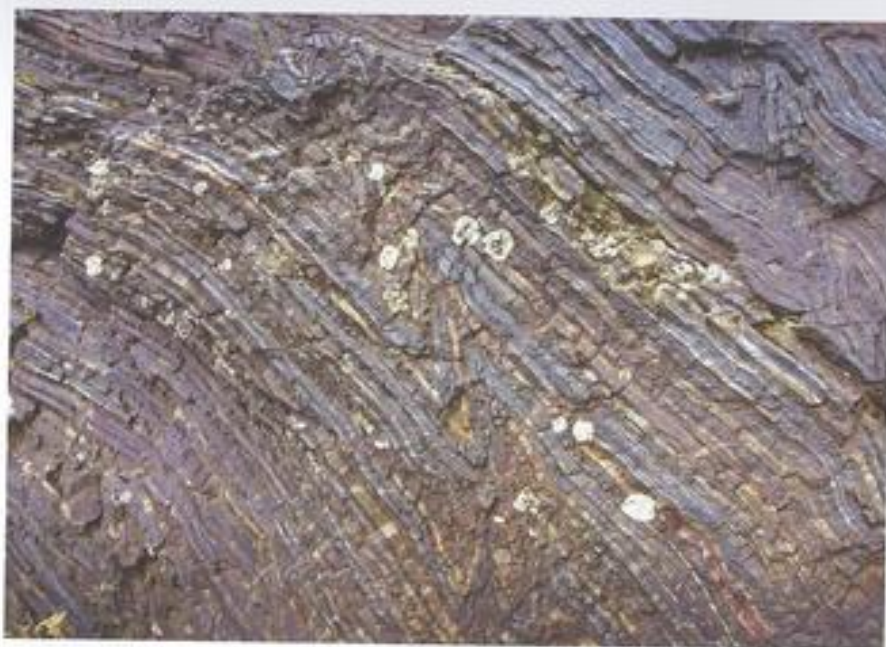
Following his return to the United States, he dedicated himself wholly to the study of Islam and learned the fundamentals of the religion in detail and in the end, he announced his Islam. After a while, the astronaut disclosed his dismissal from his job at the Space Center (NASA) but from the strength of his faith, he said: "I lost my job but surely found Allah."

(Taken from a book *Why Those People Became Muslims* and some say it is not true and I was not able to verify. And Allah knows best).<sup>1</sup>



<sup>1</sup> Translator's note: Neil Armstrong has many times respectfully but firmly attempted to correct the impression that he has converted to Islam. Armstrong participated in the Global Leadership Forum in Malaysia on 6 September 2005. The *Star Malaysia*, a widely read English newspaper in Malaysia, took the occasion to interview him on his moon landing mission in Apollo 11. In the article, Armstrong recalls moon landing, published on 7 September 2005, one finds this statement: "Armstrong, 75, also denied he had heard the Muslim call to prayer on the moon and had converted to Islam."





## Iron is brought forth from the outer Space

The verses of wonder:

Allah, Most High, says:

﴿لَقَدْ أَرْسَلْنَا رُسُلَنَا بِالْبَيِّنَاتِ وَأَنزَلْنَا مَعَهُمُ الْكِتَابَ وَالْمِيزَانَ لِيَقُومَ النَّاسُ بِالْقِسْطِ  
وَأَنزَلْنَا الْحَدِيدَ فِيهِ بَأْسٌ شَدِيدٌ وَمَنْفَعٌ لِلنَّاسِ وَلِيَعْلَمَ اللَّهُ مَن يَنْصُرُهُ وَرُسُلَهُ بِالْغَيْبِ إِنَّ اللَّهَ قَوِيٌّ عَزِيزٌ﴾

"Indeed We have sent our Messengers with clear proofs, and revealed with them, the Scripture and the Balance (justice) that mankind may keep up justice. And We brought forth iron wherein is power (in matters of war), as well as many benefits for mankind, that Allah may test who it is that will help Him (His religion) and His Messengers in the Unseen. Verily Allah is All-Strong Almighty." (Soorah Al-Hadeed 57:25)

Understanding of the Exegeses:

It is quoted from the scholars of Qur'an exegesis regarding this Verse that iron has been brought forth from heaven. As evidence, they quote the *Hadith* narrated by 'Umar Ibn Al-Chatted, may Allah be pleased with him, from the Prophet, peace and blessings of Allah be upon him, that he said: "Allah caused four blessings to descend from the heavens: Iron, fire, water and salt." (*Musnad Al-Firdaws*. It is a fabricated narration. Its defect is in Saif Ibn Muhammad, a fabricator).



Iron ore

Scientific Facts:

- Geologists have discovered that 35 percent of the Earth's composition is from iron.
- Iron is the most stable metal with a high density and as such, it preserves the Earth's equilibrium.
- Iron is characterized by the greatest magnetic property which is in compliance with the Earth's magnetism.
- Iron originates from meteors that fall from space to the Earth. About a thousand meteors some of which may weigh up to tens



of tons fall from space and some of them were discovered in Israel and some in America.

- A single atom of the metal, iron, cannot be formed except at very high energy four times greater than that of the sun.

Scientific Explanation:

Allah, Most High, says:

﴿لَقَدْ أَرْسَلْنَا رُسُلَنَا بِالْبَيِّنَاتِ وَأَنزَلْنَا مَعَهُمُ الْكِتَابَ وَالْمِيزَانَ لِيَقُومَ النَّاسُ بِالْقِسْطِ  
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"Indeed We have sent our Messengers with clear proofs, and revealed with them, the Scripture and the Balance (justice) that mankind may keep up justice. And We brought forth iron wherein is power (in matters of war), as well as many benefits for mankind, that Allah may test who it is that will help Him (His religion) and His Messengers in the Unseen. Verily Allah is All-Strong Almighty." (Soorah Al-Hadeed 57:25)

The Qur'an mentions in this noble Verse that iron was brought forth from space and that it was not on the Earth. The scholars of *Tafseer* have also mentioned this fact as said in their explanation on its power and benefits. As for science, it did not know this until the early sixties when space scientists discovered that the origin of iron is not from the Earth but from outer space and that it is from the remains of meteors since the atmosphere deflects some of them to ashes in the bid to get into the Earth's atmosphere and the rest of it falls in different forms and sizes.

Space scientists discovered



later that the iron cannot be formed within the Solar System; the sun is a star whose heat and energy is not sufficient to form iron. This has prompted the scientists to say that iron had been formed outside the Solar System and then came forth on to the Earth through the meteors and meteorites.

The astronomers now accept that the meteors and meteorites are fiery masses of rock from space from particles of different sizes formed from iron and other elements. Thus, iron is the first metal known to man on the Earth's surface since it fell from space as meteors.

Arthur Barz said in his book *The Earth*: Meteorites are divided into three types depending on their composition:

- Iron meteorites – composed of about 98 percent iron and a small percentage of nickel and traces of other metals such as cobalt.
- Stony irons – about a half of it is iron and nickel and the other half is from olivine.
- Stony meteors – which consist of largely of silicate minerals.

Thousands of meteors have been falling onto the Earth's surface and some of them sometimes weigh up to tens of tons. In 1902 C.E. a meteorite was found in the United States which weighed about 62 tons with some iron and nickel contents. As for the one at Arizona, referred to as the Arizona Meteor Crater, it was produced by a large meteorite. The crater is 600 feet deep inside its rim and about 4,000 feet in diameter and the quantity of iron combined with nickel from its fragments weighs tens of tons.

From this scientific explanation, the precision of the Qur'anic description becomes clearer – "we brought forth iron". But what is "great power" and what is "great benefits" that the Qur'an refers to by His saying: "Wherein is power (in matters of war), as well as many benefits for mankind?"

Chemists say that iron is the most stable metal and this was not known until recently from the discovery of a metal with the properties of iron in its strength, malleability, and ability to withstand stress. It is also considered the densest metal and this property is useful to the Earth in the preservation of its equilibrium. Also, about 35 percent of

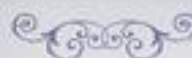




Iron and Different metals

the Earth's composition is iron, and it is the most magnetic metal which assists in the preservation of the Earth's gravity.

In the real sense, humankind did not realize the great industrial use of iron until the eighteenth century. That is, twelve centuries after the revelation of the Qur'an when man suddenly turned toward the industrial use of iron and discovered simpler means for its extraction.



Now, iron has found basic usage in about all sectors of industry and has become a cornerstone in every human use. It is used as a basic material in the production of weapons and in all heavy and light materials.

Iron is also a basic component in most living things, for example, in plant composition which absorbs its constituents from the soil and in the hemoglobin - the iron-containing protein in red blood cells of human beings and other animals that transport oxygen around the body.

We will close our discussion on iron with some wonderful numerical coincidences mentioned by Dr. Zaghloul An-Najjar - an eminent geologist - when a professor of chemistry in Australia called his attention to the fact that the *Soorah Al-Hadeed* (the Chapter of Iron - 56) coincides with the Relative Atomic Mass of the element iron (56) and its Atomic Number (26) with the number of Verses in the *Soorah* (Chapter - 26). Glorious is Allah! Who taught Muhammad, peace and blessings be upon him, all these scientific facts?

It is surely the Lord of the Worlds, Creator of the Universe who said in His Noble Book:

﴿لَقَدْ أَرْسَلْنَا رُسُلَنَا بِالْبَيِّنَاتِ وَأَنزَلْنَا مَعَهُمُ الْكِتَابَ وَالْمِيزَانَ لِيَقُومَ النَّاسُ بِالْقِسْطِ  
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"Indeed We have sent our Messengers with clear proofs, and revealed with them, the Scripture and the Balance (justice) that mankind may keep up justice. And We brought forth iron wherein is power (in matters of war), as well as many benefits for mankind, that Allah may test who it is that will help Him (His religion) and His Messengers in the Unseen. Verily Allah is All-Strong Almighty." (*Soorah Al-Hadeed* 57:25)

#### Scientific References:

The *Encyclopedia Britannica* mentioned that the origin of the Earth's formation from planetary accretions is a reliable hypothesis and the meteorites are likely models for the planets as they occurred before the planetary formation. As such, it becomes apparent that the Earth is formed from the accumulation of small rocky bodies together with average assemblage of the stony meteorites. In any case, the process of



planetary accretions leads to chemical differentiation. Most of the iron had been returned to its metal state and had sunk to the centre to form the core together with a large quantity of siderophiles.

As for the lithophiles, which combine better with oxygen than iron, and combine as acids and in some cases with silicates cause the formed substances to settle at the surface (the Earth's outer core) and at the crust. In the same instance, the chalcophiles form compounds like sulfides at very high temperatures within the Earth.

This original geochemical differentiation of the Earth can be described systematically as: iron, magnesium, silicon, oxygen and sulfur because these five elements constitute about 95 percent of the Earth's composition. Oxygen is not found in a sufficient quantity so that it combines with most of the metallic iron and magnesium and silicon. Since magnesium and silicon have greater affinity for oxygen than iron the remaining oxygen only combines with some of the iron leaving the rest as metallic iron and iron sulfides. As mentioned earlier, the metal sank to the centre to form the core with a great quantity of siderophiles.

- **Chalcophiles:** have strong affinity for sulfur.
- **Siderophiles:** they alloy steadily with iron.
- **Lithophiles:** silicate (and oxide) minerals.
- A continuous combustion of the substances results in a number of complex nuclear reactions through the substances formed from the burning of carbon and oxygen, and those that are gradually changed to substances with high combination energy like chromium, magnesium, cobalt and nickel. These reactions are generally given the name Silicon combustion because an important part of the process is the breakage of the silicon nucleus to form helium nucleus and subsequently to another silicon nucleus for the production of the other substances mentioned earlier.
- In the end, at temperatures of about  $4 \times 10^{10} \text{ } ^\circ \text{K}$  there is the potentiality to approximately reach the nuclear statistical equilibrium. At this stage, despite the fact that the nuclear

reactions continue, every nuclear reaction and its reverse occur at relatively equal rate. Thus, there is no other change in the chemical composition.

- The gradual formation of heavy substances during the fusion reactions will reach equilibrium by disintegration and actually halt integration processes when the substances become black in the form of iron and other elements closer to it in the periodic table. When heating takes place, the heavy nucleus changes to a lighter one just as ionization of atoms occur when heated.
- The density at the core of the sun is about a hundred times that of water (and about six times the density at the core of the Earth) but the temperature is at least about  $15,000,000^\circ \text{K}$  considering the fact that the pressure is at least about 10,000 times more than that at the Earth's core which is about 3,500 kilobar.
- The temperature of the sun reduces from  $15,000,000^\circ \text{K}$  at the core to about  $5,800^\circ \text{K}$  at its radiating surface.
- It is possible that the temperatures of the stars of lower masses fall drastically due to the sort of nuclear reactions that it can generate, but for the huge stars like the sun and those bigger than it, it is capable of generating chains of complex nuclear reactions as described earlier. The measure of time for star evolution is derived from the theory of star evolution which demonstrates that the stars with greater masses than that of the sun have probably completed their active life cycles in a short time relative to the period of formation of the universe from the Big Bang theory. This result would imply that the stars with greater masses than that of the sun and those relatively recently formed in the history of the galaxy possibly brought about some of the heavy elements seen today. As for the stars with lower masses than that of the sun, they do not play any role in this result.
- Iron which is the basic component of the Earth's core is the most common element on Earth with about 35 percent abundance.



## Point of Wonder

The point of wonder in the noble Verse of the Qur'an is the import of the words – *and we brought forth iron* – which implies descent of iron from heaven. This is what astronomical and geological studies have discovered in the second half of the twentieth century. (*Al-Mausu'at Al-Islamiyyah, Al-'Ijaz Al-'Ilmi*).

♦ Shaikh Ash-Sha'rawi said: During the World Summit on the Scientific Miracles of the Qur'an, Dr. Strauch, one of the most prominent scientists with the American space agency, NASA, said: We have carried out many researches on Earth's elements including laboratory studies, the single element that bewilders scientists is iron. The strength of iron has a unique make-up, the electron and neutrons in the iron atom require great energy to be combine, over four times all the energy in the Solar System. As such, it is not possible that iron had been found on Earth... it is definitely a strange element that came to the Earth and had not been found on it:

﴿وَأَنزَلْنَا الْحَدِيدَ فِيهِ بَأْسٌ شَدِيدٌ وَمَنْفَعٌ لِلنَّاسِ وَلِيَعْلَمَ اللَّهُ مَن يَنْصُرُهُ وَرُسُلَهُ بِالْغَيْبِ إِنَّ اللَّهَ قَوِيٌّ عَزِيزٌ﴾

"And We brought forth iron wherein is power (in matters of war), as well as many benefits for mankind, that Allah may test who it is that will help Him (His religion) and His Messengers in the Unseen. Verily Allah is All-Strong Almighty." (*Soorah Al-Hadeed 57:25*)

(al-Adillah al-Ma'diyyah 'alaa wujoodi laah by Sha'raawi).

♦ Shaikh Az-Zindani said: Are you aware that the atomic weight (57) of iron is the number of *Soorah Al-Hadeed* (chapter on the iron) and that the atomic number of iron (26) is the number of the Verses in *Soorah Al-Hadeed* if we consider the *Basmalah* (the phrase: *Bismillah Ar-Rahman Ar-Rahim*, meaning: In the name of Allah, the Beneficent, the Merciful) as a Verse? Will it be just a coincidence...? But many of the people do not understand...



## Sphericity of the Earth

The Qur'an is the Word of Allah, worship is performed by its recital and will remain so until the Day of Judgment. That is, there is no conflict between it and scientific facts in the universe, because the Noble Qur'an does not and will not change; if such conflicts were to occur the cause of religion will be lost completely

However, conflict can arise from two things: with not understanding the reality of the Qur'an or incorrectness of scientific hypothesis. So,



when we do not properly understand the Qur'an in such a way that we make interpretations that are different from its actual meaning, then there will always be conflict. And when the scientific hypothesis is false, then there will be conflict. But how do we or can we understand the Qur'an correctly? We will give an example of that so that the people may know that lack of proper understanding of the Qur'an could bring about conflict with existential facts.

Allah, the Mighty and Sublime, says in His Noble Book:

﴿وَالْأَرْضَ مَدَدْنَاهَا﴾

"And the Earth We have spread out..." (Soorah Al-Hijr 15:19)

This means that the Earth is spread out (flat). If we understand the Verse to mean this, we would accuse everyone who speaks about the sphericity of the Earth of disbelief especially since by means of spaceship and satellites we now are able to see the Earth as a sphere rotating about its axis.

We say that anyone who understands the noble Verse - "and the Earth We have spread out..." to mean that the Earth is flat has not truly understood the intent of the noble Verse of the Qur'an. Rather, the meaning encompasses the linguistic miracle of the Qur'an and gives the obvious reality and scientific fact which was concealed from the intellect at the time of the revelation of the Qur'an. When Allah, the Mighty and Sublime, says: "And the Earth We have spread out...", did He say: that is, Earth? No, He did not specify any Earth; rather, He generally says: *the Earth*. This means that if you get to any locality on the Earth, you find it spread out, meaning flat.

So if you are at the South Pole or North Pole, in America or Europe or Africa or Asia or any location on the Earth, you see it spread out flat and this is not possible except when the Earth is spherical. If the Earth were to be rectangular or triangular or hexagonal or any other shape, you will get to an edge on it, you will not see the Earth flat before you, but you will see the edges and the space. As such, the only shape by which the Earth is spread out at every locality you get to is that it is spherical. If you commence from any point on the surface of the Earth

and you begin to move until you come back to the starting point, you will ever find the Earth spread out flat throughout the movement.

And this is the meaning of the noble Verse - "and the Earth We have spread out...". Some of the people have understood the Earth being spread out as evidence for the sphericity of the Earth, and this is a miracle in the Noble Qur'an. It comes with a single word to suit the apparent meaning of many things and it points to its universal reality. Thus, those who erred in the understanding of this Verse and held it to mean that the Earth is flat say that there is conflict between the religion and science. And those who understood the noble Verse correctly say that the Qur'an is the first book on Earth that mentioned that the Earth is spherical and this fact alone is sufficient to bring about belief but they do not believe.

This is how we see the Qur'anic miracles: the One who revealed it is Allah, the Creator is Allah so, when a part of the Verse of the Qur'an informs us that the Earth is spherical and that it rotates around its own axis the meanings of these Verses cannot be harmonized except by putting these two facts together.

Can greater physical evidence be found that Allah created this universe? Then, He, the Mighty and Sublime, affirmed the meanings of these universal facts to show His Signs to His creatures. So, He says:

﴿خَلَقَ السَّمَوَاتِ وَالْأَرْضَ بِالْعَقْلِ يَكُونُ اللَّيْلُ عَلَى النَّهَارِ وَيَكُونُ النَّهَارُ عَلَى اللَّيْلِ وَسَحَرَ الشَّمْسَ وَالْقَمَرَ كُلٌّ يَجْرِي لِأَجَلٍ مُّسَمًّى ۚ أَلَا هُوَ الْعَزِيزُ الْغَفُورُ﴾

"He makes the night to go in the day and makes the day to go in the night. And He has subjected the sun and the moon. Each running (on a fixed course) for an appointed term. Verily, He is the Almighty, the Oft-Forgiving." (Soorah Az-Zumar 39:5).

That is how He, Most High, describes that the night and day were both created in a cyclic form. And since the night and day are observed on the Earth together it is not possible that they both occur cyclically - except if the Earth itself is spherical in view of the fact that a half of the sphere will be dark and the other half bright.

This is another fact from the Qur'an which mentions to us that a



half of the Earth will be bright and another half dark. If the night and day found on the Earth's surface are not equal in area in such a way that it appears as a thin thread while the other covers the most of the area, both will not really be like the sphere. The thin thread in this case will be rectangular or triangular or any other shape based on the area that it covers on the Earth's surface. And it is possible that the situation is as such based on the variation of the night and day but His saying: "He makes the night to go in the day and makes the day to go in the night.." contains evidence that a half of the Earth will experience night and the other half, day.

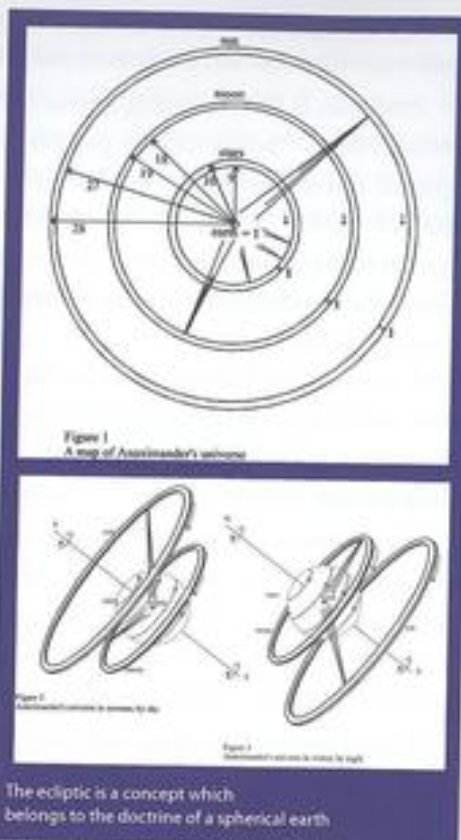
When knowledge improved and man got to space and saw the Earth and its shape, it is found that, in fact, a half of it is bright and another half is dark as Allah, Most High, informs us.

Another evidence that the Earth rotates around its own axis is the noble Verse:

﴿وَرَى الْجِبَالَ تَحْتًا سَاجِدَةً وَهِيَ تَمُرُّ مَرَّ السَّحَابِ صُنِعَ اللَّهُ الَّذِي لَيْسَ لَهُ شَئٌ يَدْرِي بِمَا تَعْمَلُونَ﴾

"And you will see the mountains and think them solid, but they shall pass away as the passing away of the clouds. The Work of Allah, who perfected all things, verily He is Well-Acquainted with what you do." (Soorah An-Naml 27:88).

When we read this Verse, and we see the mountains before us stable



and fixed without movement, then we are astonished for Allah, Most High, says: "...you will see the mountains and think them solid..." meaning that our seeing the mountains as solid is not real, but that is something that Allah has created and concealed from our naked eyes. It is only perfection from Allah, the Mighty and Sublime, and the limitless ability of the Creator. This is because the mountain is tremendously huge and not hidden from the eyes, for were the size of the mountains to be small, it could have been thought that our eyes do not see it properly or for its small size we could not really observe whether it moves or is static.

But Allah, the Mighty and Sublime, created the mountains big, seen by anyone with the slightest ability to see in such a way that no one can give evidence that his sight is poor and not able to grasp small things. At the same time, He told us that these mountains are solid, yet, they will pass away as the passing away of the clouds. So, why has He, Most High, employed the movement of the clouds while describing the movement of the mountains?

This is because clouds do not move independently, they do not move from one place to the other on their own. Rather, they move with the strength of the wind. Were the winds to stop motion, the clouds would remain motionless, just like the mountains. Allah, the Mighty and Sublime, wants us to know that the mountains do not move independently --- that is, they cannot change their location on their own. Thus, it is not that a mountain in Europe can move and after sometime we find it in America or Asia. Its movement becomes established only by a force outside it. And since the mountains are found on the Earth's surface, no force will be seen moving the mountains except if the Earth itself moves and then the mountains on it also move with it.

That is how the mountains appear to us - stable since they do not change location, but at the same time they move because the Earth moves around its own axis and the mountains are an integral part of it, so they completely move with it as the wind moves the clouds. Since we do not sense the rotation of the Earth, we will not also sense the motion of the mountains. Thus, His saying: "...but they shall pass away as the passing away of the clouds..." means that there is a period in time



between every period when it passes away. This is because the clouds are not permanently steady; rather, the rainy season will come and then the dry season and the period when the sun is blazing hot. The movement of the mountains is similar: they go and return to the same position over a specified period. Indeed, the Earth is filled with signs, but it is man that takes no heed.

When the non-Muslims are called to attention regarding the Signs of Allah, the Mighty and Sublime, they turn away exactly as it happened to the Messenger of Allah – peace and blessings be upon him – as in His saying:

﴿وَقَالُوا لَنْ تُؤْمَرَكَ لَكَ حَتَّى تَعَجَّرَ لَنَا مِنْ الْأَرْضِ يُبْدُوا ۖ أَوْ تَكُونَ لَكَ جَنَّةٌ مِنْ نَجِيلٍ  
وَعَسَىٰ أَنْ تَكُونَ مِنَ الْكَاذِبِينَ ۚ أَوْ تَكُونَ لَكَ جَنَّةٌ مِنْ نَجِيلٍ ۚ أَوْ تَكُونَ لَكَ جَنَّةٌ مِنْ نَجِيلٍ ۚ  
كَيْفَ أَوْ نَأْتِي بِاللهِ وَالْمَلَائِكَةِ قَوْمًا ۚ﴾

"And they say: 'We shall not believe in you (O) until you cause a spring to gush forth from the Earth for us; or you have a garden of date-palms and grapes and cause rivers to gush forth in their midst abundantly. Or you cause the heaven to fall upon us in pieces, as you have pretended, or you bring Allah and the angels before (us) face to face.'" (Soorah Al-Isra 17:90-91).

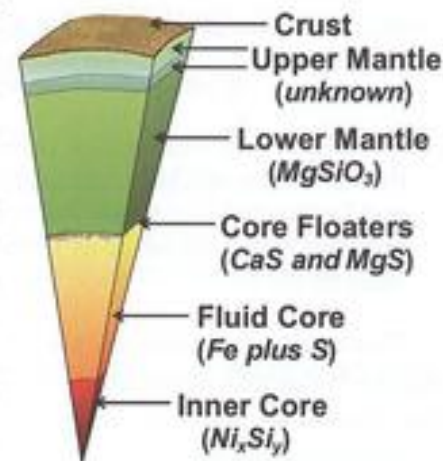
All of this is obduracy from them for the Verses revealed in the Noble Qur'an contain many miracles which should make them believe.

(Al-Adilat ul-Ma'adiyyah 'alaa wujoodi Allah by the eminent Shaykh Muhammad Mutawallee ash-Sha'raneel)

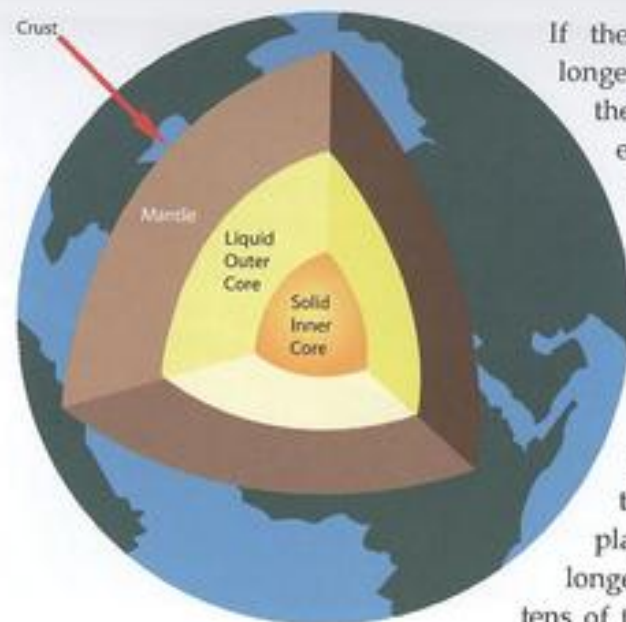


## The Earth's Layers

Geologists say that if the thickness of the topmost layer of the Earth increases by merely one kilometer from its present thickness, all of the available oxygen will be consumed in the formation of the increase in the Earth's layer and as such, plants and animals will not be found anymore and carbon (IV) oxide will be in abundance. Oxygen composes 88.8 percent proportion by weight in seawater and the rest is hydrogen; if the quantity of hydrogen doubles while the Earth separates, oxygen would not be found and water would overflow at every point on Earth.







If the day were to be longer than it is ten times, the sun would burn every plant on the Earth's surface. The question arises: who has measured the night and day on Earth to suit the life that exists on it? This is despite the fact that on some planets, the day is longer than the night by tens of times and on some of them a part will forever be day

and the other night....(Az-Zindani)

♦ Dr. Muhammad Hasbusnabiyy, the head of Department of Physics at 'Aynush-Shams University says: Science has yet to find out what is meant by the "seven heavens and seven Earths" but we could understand from the Verses of the Qur'an:

﴿اللَّهُ الَّذِي خَلَقَ سَبْعَ سَمَوَاتٍ وَمِنَ الْأَرْضِ يَنزِلُ الْأَمْرُ بَيْنَهُنَّ لِتَعْلَمُوا أَنَّ اللَّهَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ وَأَنَّ اللَّهَ قَدْ أَحَاطَ بِكُلِّ شَيْءٍ عِلْمًا﴾

"It is Allah Who has created seven heavens and the Earth the like thereof (i.e. seven). His command descends between them (heavens and Earth), that you may know that Allah has power over all things, and that Allah surrounds all things in (His) knowledge." (Soorah At-Talaq 65:12)

This means that there are six other Earths other than our Earth and that each has its heaven above it. The saying of our leader, the chosen one, Muhammad, peace and blessings be upon him, confirms this:

"Allahumma Rabba as-Samaawaat as-Sab' wa ma azlalna wa Rabba al-

*Ardeen wa ma aqalalna*" (O Allah, Lord of the seven heavens and what it overshadows, and the Lord of the seven Earths and what it bears) which also implies that every Earth has its heaven that tops it.

Allah, most High, says: "And of the Earth the like thereof (i.e. seven)" and the Divine commands mentioned in the Verse above, reveal something about which, there is no doubt, is directed to the discerning creatures on these six other Earths which the scientists may discover in the future based on His saying:

﴿وَمِنْ مَّبَإِيْنِهِ خَلْقُ السَّمَوَاتِ وَالْأَرْضِ وَمَا بَيْنَهُمَا مِنْ دَاكُتٍ وَهُوَ عَلَى جَمْعِهِمْ إِذَا يَشَاءُ قَدِيرٌ﴾

"And among His signs is the creation of the heavens and the Earth, and whatever moving (living) creatures He has dispersed in them both. And He is All-Potent over their assembling (i.e. resurrecting them on the Day of Resurrection after their death and dispersion of their bodies) whenever He wills." (Soorah Ash-Shu'ra 42:29).

This contains an indication of the possibility of the coming together of the worlds in the life of this world or the hereafter, bearing in mind that the expression "All praises and thanks be to Allah, the Lord of all that exists" has been repeated in the Qur'an seven times- Soorah Al-Fatihah Verse 2, Soorah Al-An'am Verse 45, Soorah Yoonus Verse 10, Soorah As-Saffat Verse 182, Soorah Az-Zumar Verse 75, Soorah Al-Ghafir Verse 65, Soorah Al-Jathiyah Verse 36.

This coincidence further establishes what is mentioned above regarding the seven heavens and Earth. Moreover, in the last of the Verses is His saying:

﴿قُلْ لِلَّهِ الْحَمْدُ رَبِّ السَّمَوَاتِ وَرَبِّ الْأَرْضِ رَبِّ الْعَالَمِينَ﴾

"So, all the praises and thanks be to Allah, the Lord of the heavens and the Lord of the Earth and the Lord of all that exists." (Soorah Al-Jathiyah 45:36)

That is, He is the Lord of the Worlds in the universe in addition to being the Lord of other worlds.

(Al-'Ulloom Fil Qur'an by Dr. Muhammad Jameel Al-Habbal and Dr. Miqdaad Mar'ey Al-Jawari).



## Summary:

﴿اللَّهُ الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ وَمِنَ الْأَرْضِ مِثْلَهُنَّ يَتَنَزَّلُ الْأَمْرُ بَيْنَهُنَّ﴾

"It is Allah Who has created seven heavens and of the Earth the like thereof (i.e. seven). His command descends between them (heavens and Earth)." (Soorah At-Talaq 65:12)

'A'ishah, may Allah be pleased with her, said that she said to Abu Salamah to keep away from (contentions regarding) land, for the Prophet, peace and blessings be upon him, said:

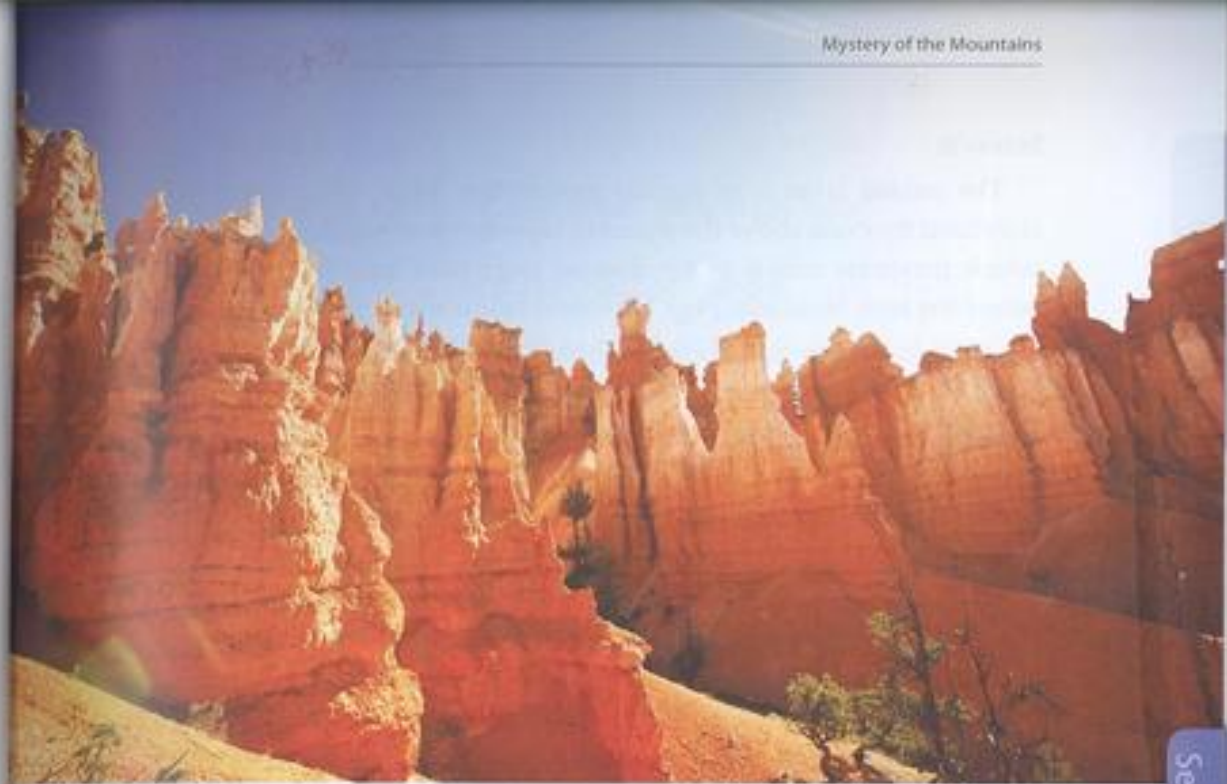
"Anyone who cheats by the measure of the span of the hand of a land will be bound from the seven Earths." (Reported by Al-Bukhari).

- It is discovered recently that the Earth is like a ball with seven layers:

1. The atmosphere which is the mixture of gases surrounding the Earth.
2. The Hydrosphere which consists of the bodies of fresh and salt water.
3. The Sial - its name is coined from the first two letters of each of Silicon and Aluminum the two most abundant elements on it and it (sial) is generally referred to the Earth's crust.
4. The Sima - its name is coined from the first two letters of each of its major elements - silicon and magnesium and it (sima) is generally referred to as an envelope or cover.
5. The layer of iron-rich Sima.
6. The layer of Nife from nickel and iron.
7. The nuclear core.

- Scientific research about the last three layers has not reached a conclusive stage. And Allah knows best.

(al-Is'lam wa Haqa'iq al-'Ilmiyyah by Mahmood Qasim).



## Mystery of the Mountains

Allah, Most High, says:

﴿وَمِنَ الْجِبَالِ جُدَدٌ بَيْضٌ وَحُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا وَغَرَابِيبُ سُودٌ﴾

"And among the mountains are streaks white and red of varying colors and (others) very black." (Soorah Fatir 35:27).

The mountains are tremendously huge lumps from stones and rocks found on large parts on the Earth's surface consisting of the same materials. A great mass of rock forms upon another large lump - the Earth. This is what was known to the people about the mountains. However, advanced research has shown what is below the layers of the Earth; it was discovered that the mountains penetrate the first layer whose thickness exceeds 50 kilometers called the Earth's crust. It penetrates this layer extending its roots into the dynamic second layer



below it.

The second layer is in regular motion but Allah, Most High, has stabilized the crust above the dynamic layer by means of the mountains which penetrate into it in the manner pegs hold tents over the area below the tent. Similarly, pegs are found below every mountain.

The researchers and those involved in the studies were greatly astonished when they discovered that this is already recorded in the Book of Allah. He, Most High, says:

﴿وَالْجِبَالُ أَوْتَادًا﴾

"And the mountains as pegs." (Soorah An-Naba' 78:7)

And Allah says:

﴿وَالْجِبَالُ أَرْسَالًا﴾

"And the mountains He has fixed firmly" (Soorah An-Naziyat 79:32)

And He, Glorious is He, says:

﴿وَأَلْقَى فِي الْأَرْضِ رَواسِيَ أَنْ تَمِيدَ بِكُمْ﴾

"And has set on the Earth firm mountains lest it should shake with you." (Soorah Luqman 31:10)

(Iwa gadaa 'Isr al-Emaan by Shaykh Abdul Majeed az-Zindogee)

## Mountains as Pegs

Dr. Zaghloul An-Najjar said: Allah, Most High, says:

﴿أَلَمْ نَجْعَلِ الْأَرْضَ مِهْدًا ۝ وَالْجِبَالُ أَوْتَادًا﴾

"Have We not made the Earth as a bird, and the mountain as pegs?"  
(Soorah An-Naba' 78:6-7)

Here, I will comment only on the second of the two Verses despite the geological significance of the first and the one from which we shall take our discussion some other time, if Allah willing.

Allah, Most High, describes the mountains as pegs and this contains a clear indication that these amazing signs are not only about tremendously high structures that we see on the Earth's surface - like most of the dictionaries have described - but Allah affirms with these expressions that the mountains have extensions into the lithosphere. Just as ordinary pegs are buried in the Earth so that they can provide stability on Earth to that part of the tent which they support, so are the mountains. This is what Earth science has affirmed recently that it has deeprooted pegs to stabilize the lithosphere and by extension, the Earth. So, what we see on the Earth's surface as mountains are only the crests of the huge masses of rocks which penetrate the lithosphere, buoys on the plastic asthenosphere and the thickest parts just like the ice sheets that float on the oceans.

Thus, the mountain extensions into the lithosphere are between 10-



15 times their height above the Earth's surface based on the thickness of the rocks making up the mountain and that of the material into which the pegs sink.

♦ So, a mountain whose specific gravity is 2.7 g/cm cube on an average (like granite), it can sink below the simatic rocks (whose specific gravity is about 3.0 g/cm cube on average) in such a way that the length of the buried part reaches about 9/10 while the exposed part on the Earth's surface is about 1/10 of the total length.

That is how we have seen a single word – pegs – describing the two sections of the mountain – the upper and lower – and its basic use to the Earth. Also, the word used in the Qur'an to describe the mountains is so precise linguistically and scientifically that it is currently used by scientists to describe the lower part of mountains concealed below the Earth.

Even when the scientists considered in the second half of the nineteenth century that it was possible that the mountains had pegs, they could not affirm this reality of the presence of lower extensions which stabilize the Earth and the lithosphere until much later. We are at the beginning of the understanding of the structure and composition of those extensions and their function in stopping the vibrations of the Earth and the lithospheric plates in the domain of modern-day astronomy.

Its precedence to describe the mountain as pegs is considered clear evidence that the Noble Qur'an is the Word of Allah, the Almighty, and that Muhammad, peace and blessings be upon him, is the Seal (last) of the Messengers.

#### Description of the Mountains

Allah, Most High, says:

﴿وَالَّذِي فِي الْأَرْضِ رَوًى أَنْ يَقْبِذَ بِهِمْ ۖ وَانْهَارًا وَبُحْبُوحًا ۚ وَالَّذِي فِي الْأَرْضِ رَوًى أَنْ يَقْبِذَ بِهِمْ ۖ وَانْهَارًا وَبُحْبُوحًا ۚ﴾

"And He has affixed into the Earth mountains standing firm, lest it should shake with you; and the rivers and roads, that you may guide yourselves." (Soorah An-Nahl 16:15)

And He, the Mighty and Sublime, says:

﴿أَوْ جَعَلْنَا الْأَرْضَ بِهَيْدًا ۖ وَالْجِبَالَ أَوْتَادًا ۚ﴾

"Have We not made the Earth as a bird, and the mountain as pegs?" (Soorah An-Naba' 78:6-7)

According to scientists in the nineteenth century, mountains were nothing more than the height of their structure rising above the Earth's surface. Studies followed others and English scientists studied the Himalayas in 1864 and could not come out with any substantial result other than a puzzle called "the Indian puzzle". Further studies resulted in referring to it as "the mountain puzzle". In the end, one of the scientists put forward an idea saying perhaps these mountains have pegs within the Earth. Thus, the scientists used seismographs in their study and the following became known:

- ♦ The mountains have pegs penetrating through the Earth's surface at about 4.5 times its height above the Earth's surface.
- ♦ Its basic function was to stabilize it and maintain its equilibrium.

This mystery was not affirmed by researchers until the year 1956 C.E. as mentioned by Dr. Farooq Baz, a specialist in Earth science, whereas this mystery was already mentioned in the Qur'an more than 1,400 years ago when Allah, Most High, said:

﴿وَالْجِبَالَ أَوْتَادًا ۚ﴾

"And the mountain as pegs..."





## How the Mountains Formed

Allah, Most High, says:

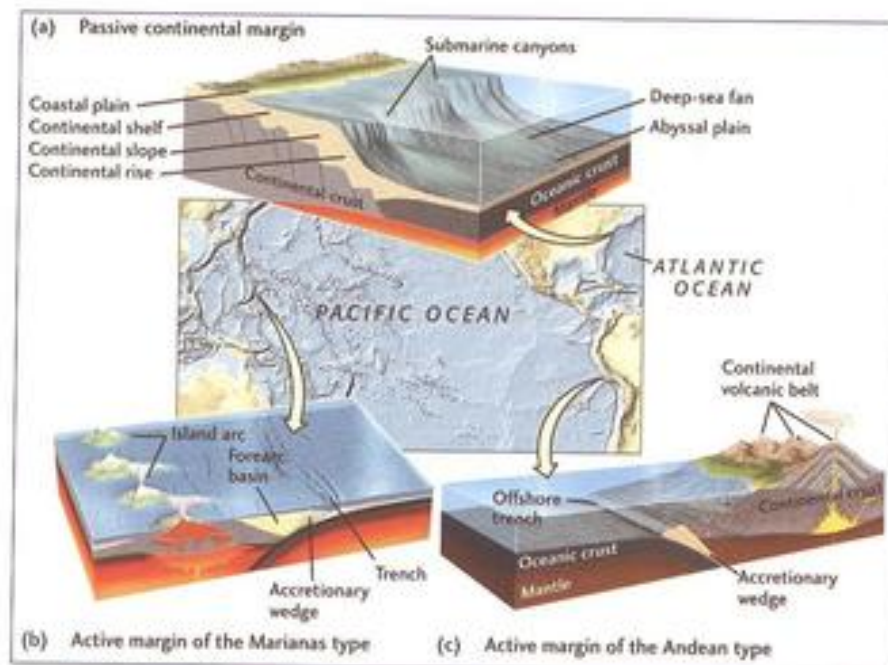
﴿وَالْقَىٰ فِي الْأَرْضِ رَوًى أَنْ يَبَيْدَ بِكُمْ وَهَدًى فِيهَا مِنْ كُلِّ دَلِيلٍ﴾

"And He has affixed into the Earth mountains standing firm, lest it should shake with you; and the rivers and roads, that you may guide yourselves." (Soorah An-Nahl 16:15)

And He, the Mighty and Sublime, says:

﴿وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوًى وَأَلْبَسْنَاهَا فِيهَا مِنْ كُلِّ شَيْءٍ مَزْجُورٍ﴾

"And the Earth We have spread out and have placed therein firm mountains, and caused to grow therein all kinds of things in due proportion." (Soorah Al-Hijr 15:19)



Allah, Most High, says:

﴿وَالْقَىٰ فِي الْأَرْضِ رَوًى أَنْ يَبَيْدَ بِكُمْ وَهَدًى فِيهَا مِنْ كُلِّ دَلِيلٍ﴾

"And has set on the Earth firm mountains lest it should shake with you." (Soorah Luqman 31:10).

The word 'alqa (to place) contains a Qur'anic miracle

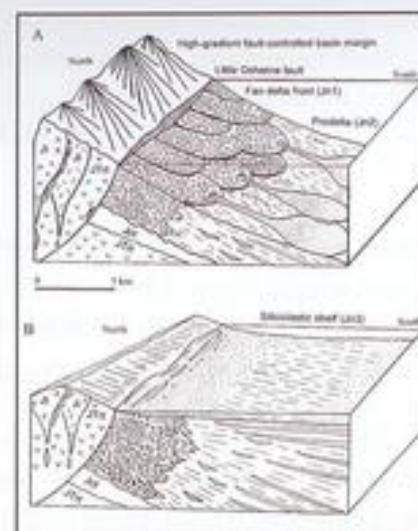
Earth scientists say that the formation of mountains on the Earth's surface achieved by placement which became complete geologically over long periods occurs from the bottom to the top. The oceans and seas extrude their contents to the seafloor by volcanic action or from the top to the bottom by the action of the seafloor and the gradual deposition of sediments.

Allah, the most High, says:

﴿وَالسَّمَاءَ دَانٍ بِنُجُومٍ وَالْأَرْضَ دَانٍ بِنُجُومٍ﴾

"By the sky which gives rain again and again. And the Earth which splits." (Soorah At-Tariq 86:11-12)

The movements of the Earth's layer below the crust bring about great pressure from the bottom to the top and this leads to the formation of mountains. It is scientifically established that the mountains extend about four and a half times below the Earth's lower layer. Alfred Kroner, a German scientist and eminent geologist who was an atheist, was asked by some scientists during his visit to King Abdul Aziz University: Where did Muhammad get all this knowledge? And he answered: There is no doubt that it came to him from above or below.





## The Earth which Splits

Dr. Zaghloul referred to the *Ayah*:

﴿وَالْأَرْضِ دَارَ السَّعِيرِ﴾

"And the Earth which splits." (Soorah At-Tariq 86:12)

This Verse has come in the form of an expression of oath and we understand this oath shows the importance of what Allah, Most High, swore by and we ask regarding this Verse: What is the importance of having the Earth split?

Scholars of *Tafseer* in the past commented on this Verse and said: these splits are the cleavages which form on the earth after extensive irrigation so that slits are formed for the thin green sprouts to issue from the earth after the seed is planted in the earth. The scholars have not

erred considering the fact that if you plant a seed it grows and becomes fully matured, then brings up a beautiful flower or a sweet fruit or exquisite wood. This penetration occurs during small cleavages in the earth after it has been slackened by water.

### Faults on the Seafloor

Geologists later discovered that the outer rocky layer of the Earth known as the lithosphere (whose thickness on the ocean floor is about 70-75 kilometers and below the continents at about 100-150 kilometers) is divided by a system of deep faults into twelve plates in addition to smaller plates called micro plates or platelets. The plates float on the weak dynamic plastic layer known as the asthenosphere. The plates move toward one another (convergent plate boundaries) or away from one another (divergent plate boundaries) or slide past one another in opposite directions (without converging or diverging, i.e. transform plate boundaries).

If we consider the plates as rectangular, molten rock known as magma wells up (from tens of kilometers beneath the surface of the seafloor) from one of the sides of this rectangle (i.e. at divergent

Alpine\_Fault\_SRTM



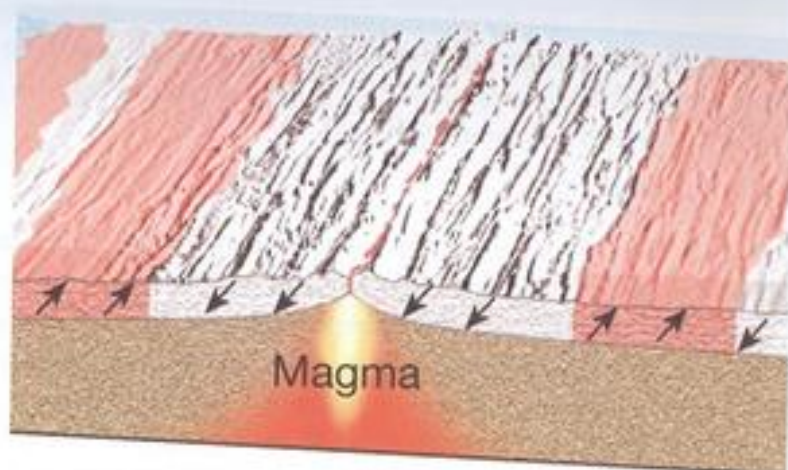


plate boundaries, producing enormous volcanic eruptions of a dark rock called basalt) forming a new part of the seafloor. At the opposite side, a plate moves toward another part near it (at convergent plate boundaries), and it begins to thrust gradually below the asthenosphere with the same speed of formation of the seafloor on the opposite side (at the divergent plate boundary). The lithosphere also has a side which develops during faulting at the mid-ocean called the mid-oceanic rift system.

When plates break apart, the lithosphere thins and ruptures to form a divergent plate boundary. In the oceanic crust, this process is called seafloor spreading, because the splitting plates are spreading apart from each other. On land, divergent plate boundaries create rift valleys – deep valley depressions formed as the land slowly splits apart. On the other hand, convergent plate boundaries occur where plates are consumed, or recycled back into the Earth's mantle. There are three types of convergent plate boundaries: between two oceanic plates, between an oceanic plate and a continental plate, and between two continental plates. The convergent regions where the oceanic crust is thrust below oceanic crust or continental crust is called the Subduction Zone. Many earthquakes occur in subduction zones, and volcanic ridges and oceanic trenches form in these areas. In the ocean, convergent plate boundaries occur where an oceanic plate descends beneath another oceanic plate. Chains of active volcanoes develop 100 to 150

kilometers above the descending slab as magma rises from under the plate. When two continental plates converge, the incoming plate drives against and under the opposing continent. This often affects hundreds of miles of each continent and, at times, doubles the normal thickness of continental crust. Colliding continents cause earthquakes and form mountains and plateaus

When the plates slide past one another in opposite directions without converging or diverging, a transform plate boundary, also known as a transform fault system, forms. Usually simple, the transform faults are straight fault lines that form at a right angle to ocean ridge spreading centers. These fault systems can also connect spreading centers to subduction zones or other transform fault systems within the continental crust.

#### The Faults bring about the Continents

The process of the convergence, divergence and sliding past one another of plates described above is continuous and is not restricted to the seafloor. They also occur on the continents. The Red Sea, for example, spreads at the rate of 3 centimeter per year and the California Gulf has a spreading rate of 6 centimeter per year. The collision of the Indian plate with the Eurasian plate has produced the Himalayan Mountains, the Earth's highest mountain region, containing 9 of the 10 highest peaks in the world.

These faults on the continental crust that affect some tens of thousands kilometers in all directions at depths ranging between 65-150 kilometers are



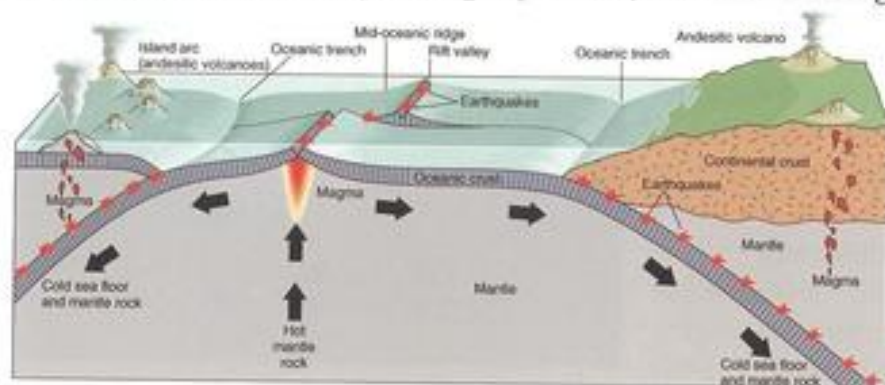
mountain-himalayas



from the clearest signs of the sphericity of the Earth. These splits were not known until after the World War II and their evidences led to the theories of seafloor spreading and plate tectonics in the late sixties and early seventies in the last century.

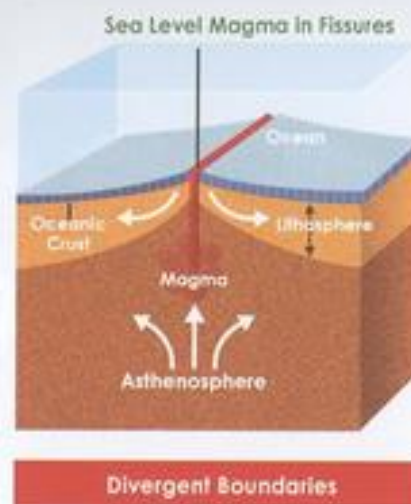
The faults appear like a network in the fault regions which circulate the globe and through the length of these faults, the processes of the convergence, divergence and sliding past one another of the lithospheric plates take place. They also serve as the passage ways for the escape of heat (thermal plumes) accumulated in the layer below the lithosphere (mantle) in a continuous but calm manner. The molten magma from the bowels of the upper mantle of the Earth due to its low density extrudes (upwells) in a number of hotspots and then slumps when it cools, causing the generation of convection currents which in return bring about the movement of the lithospheric plates in convergence or divergence or transformation (when they slide past one another) form. The divergent plate boundaries occur in the areas where the mantle materials in convection currents extrude, and the convergent plate boundaries occur where there is descent beneath.

The bowels of the Earth were far hotter than today due to the presence of great amounts of radioisotopes such as uranium-235 and potassium-40 and the convection currents were also much faster, leading to faster activity for every accompanying phenomenon – igneous activity, earthquakes, and lithospheric plate movements and the movements that bring about mountain formation or continental growth or what is called ocean-continent cycle or geosynclinals/mountain building.



Seafloor convergent plate boundaries

In the process, the atmosphere and hydrosphere absorb the gases that are released (out-gassing). In addition, continental growth above the deep oceanic trenches through the growth of volcanic arcs (and what is called the continental margin arc) also occur near the margins, or edges of continents and stress developed in these areas cause rock layers to fold, leading to earthquake faults, or breaks in the Earth's crust called thrust faults. The folding and thrust faulting thicken the continental crust, producing high mountains.



About 500 million years ago, the continents were in locations completely different from where they are today and the convection currents in the Earth's mantle brought about the movement of these continents until they joined in a single large C-shaped Supercontinent 200 million years ago referred to as "pangea" and the rest of the globe was covered by "Panthalassa" – an enormous world ocean that stretched from pole to pole and extended to about twice the width of the present-day Pacific Ocean at the Equator.

The lithosphere was like a covering that prevented the extrusion of heat from the bowels of the Earth, the accumulation of which later produced a network of great faults at the middle of the Supercontinent such that northern America and northern Africa separated about 180 million years ago, and between it and Europe around 150 million years ago. The separation of southern America from Africa followed that about 110 million years ago when the formation of Iceland started.

At the beginning of the process of breakup, movement of large bodies of water began to emerge in the form of large coastal indentations gulf, referred to as Tethys which gradually separated the "Pangea" into the hypothetical continental mass in Northern Hemisphere that included North America, Europe, and Asia called Laurasia and Gondwana, or





Mount of Ararat

Gondwanaland, in the south during much of the Mesozoic (245 to 66.4 million years ago). Laurasia consisted of North America and Eurasia north of the Alpine-Himalayan mountain ranges, while Gondwana consisted of South America, Africa, peninsular India, Australia, Antarctica, and those Eurasian regions south of the Alpine-Himalayan chain.

At the separation, which still continues – our continents became as we know them today and the first fault, which brought about the first break was referred to as Mid-Atlantic Ridge. During this, molten magma from beneath the Earth's crust continuously wells up, cools, and is progressively pushed away from the ridge's flanks. This phenomenon is evinced by the fact that the crustal material on either side of the Mid-Atlantic Ridge is notably younger than that farther away from the ridge.

The oldest oceanic crust today is dated Mesozoic, that is, about 200 million years ago and it gradually gets submerged at the convergent lithospheric plate boundaries through the same process that led to the formation of new oceanic crusts. Numerous volcanic mountains are found on the continents like Mount Ararat (5,100 meters above sea level), Mount Etna (3,300 meters above sea level), Mount Fussofis

(1,300 meters), Mount Kilimanjaro (5,900 meters), Mount Kenya (5,100 meters), etc. These volcanic rocks are linked beneath with a network of deep faults penetrating the thickness of the lithosphere to reach the asthenosphere which leads to the breakup of the existing continents to relatively smaller masses.

*Were it not for the Faults Life will be Impossible*

From the above explanations, we conclude that this great network from a system of faults that circulates the globe for tens of thousands of kilometers in all directions leads to the splitting of the lithosphere into relatively big, medium, and small plates in addition to smaller plates. The rest of the plates are considered from the clearest evidences of the Earth's sphericity and our globe would not be habitable without it. This is because these faults are the causes for the absorption of gases by the Earth's atmosphere and the hydrosphere, and for the formation and breakup of continents, the growth of mountains, and impregnation of the crust with new minerals in a systematic manner. They also function in the movement of the lithospheric plates and the gradual release of accumulated heat in the Earth's bowels.

Earth. This is something necessarily mentioned in the Noble Qur'an as one of the signs of its Creator. Scientists did not pay attention to it until after World War II and did not properly understand it until late sixties and early seventies of the last century. As a result, the Qur'an is far ahead of science in mentioning a clear, established fact – more than fourteen centuries ago and this is one of the signs that evince the Divine origin of the book and the truthfulness of the Prophethood of our leader, Muhammad, peace and blessings of Allah be upon him.





## The Relationship between Water and Rock Colors

The relationship is evident from the scientific miracles of Verses related to the water is Allah's saying:

﴿أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا أَلْوَانُهَا وَمِنَ الْجِبَالِ جُدَدٌ بَيضٌ وَغُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا وَغَرَابِيبُ سُودٌ ۚ وَرَبُّكَ أَعْلَمُ بِمَا تَفْعَلُونَ ۚ وَاللَّهُ عَزِيزٌ غَفُورٌ ۝﴾

"See you not that Allah sends down water (rain) from the sky, and We produce therewith fruits of various colors, among the mountains are streaks white and red, of varying colors and (others) very black. And likewise of men and Ad-Dawabb (moving living creatures, beasts), and cattle are of various colors. It is only those that have knowledge among His slaves that fear Allah. Verily, Allah is Almighty, Oft-Forgiving." (Soorah Fatir 35:27-28).

The difference of colors is mentioned in three parts of these Verses.

To summarize the extensive research conducted on this subject the colors of rocks are a result of the colors of the minerals it is composed of. And the colors of the minerals result from their elemental composition, its environment (of formation) and its interaction with water in such a way that water is the critical agent in the coloration of the rocks. Thus, Allah, the Mighty and Sublime, says -

﴿أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا أَلْوَانُهَا ۚ﴾

"See you not that Allah sends down water (rain) from the sky, and We produce therewith fruits of various colors..."

Each time science advances, it discovers an aspect of the scientific miracles of the Qur'an, so that we truly know that the One Who revealed this Qur'an created the universe and that scientific data





Beautiful view of a lush green mountains

conform conclusively to revelation. This is because the revelation is Allah's Word and the universe is Allah's creation and thus, authentic science has to conform to revelation.

Therefore, I always say: the truth is a cycle, the lines of authentic narrations must meet with those of correct interpretations and the lines of forthright intellect definitely meet with the lines of unimpaired nature and those of undistorted reality. So, we should definitely know that undoubtedly, the One Who created the universe is the One Who revealed the Qur'an.

Allah, Most High, says:

﴿أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا أَلْوَانُهَا وَمِنَ الْجِبَالِ﴾

"See you not that Allah sends down water (rain) from the sky, and We produce therewith fruits of various colors, among the mountains..."

Here, there is a conjunction; Allah, Most High, says:

﴿وَمِنَ الْجِبَالِ جُدَدٌ بَيْضٌ وَحُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا وَعَرَبِيَّةٌ سُودٌ ۝ وَمِنَ النَّارِ وَالْأَصْفَرِ مُخْتَلِفٌ أَلْوَانُهُ كَذَلِكَ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ﴾

"...among the mountains are streaks white and red, of varying colors and (others) very black. And likewise of men and ad-Dawabb (moving living creatures, beasts), and cattle are of various colors. It is only those that have knowledge among His slaves that fear Allah. Verily, Allah is Almighty, Oft-Forgiving."

and "Innama" (it is only) implies limitation and restriction. Meaning – the one who has not learned does not have the means to fear Allah, so if you want to fear Allah in the right manner, one has no alternative to learning for Allah, the Mighty and Sublime, says:

﴿إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ﴾

"It is only those that have knowledge among His slaves that fear Allah"

meaning, only the learned ones truly fear Allah and none else except them.

Regarding the explanation of this Verse, Ibn Katheer said: Allah, Most High, informs regarding the perfection of His Ability in the creation of various things from a single thing and that is water that descends from

Multi-colored mountains in the south of Israel, the descent to the Gulf of Eilat Red Sea







Sand mountain

the heaven by which fruits of various colors are produced from yellow to red to green to white. These are from the colors of fruits as is known from its varying colors, tastes, aroma.

Allah says in another Verse:

﴿وَفِي الْأَرْضِ قِطْعٌ مُتَجَاوِرٌ وَمَحَلٌّ مِنْ أَغْصَبٍ وَزَرْعٌ وَنَخِيلٌ صِنْوَانٌ وَغَيْرُ صِنْوَانٍ يُسْقَى بِمَاءٍ وَاحِدٍ وَنُفِضَ كُلُّهُمْ مِنْهُ عَلَىٰ بُحْبُوحَةٍ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ﴾

"And in the earth are neighboring tracts and gardens of vines and green crops (fields), and date-palms, growing into two or three from a single stem root or otherwise (one stem root for every palm), watered with same water; yet some of them We make more excellent than others to eat. Verily, in these things, there are signs for people who understand." (Soorah Ar-Ra'd 13:4)

And His saying:

﴿وَمِنَ الْجِبَالِ جُدَدٌ بَيْضٌ وَحُمْرٌ مُخْتَلِفٌ أَلْوَانُهَا﴾

"...among the mountains are streaks white and red, of varying colors and (others) very black..."

meaning - and He created the mountains like that too with varying

colors as is also known from white to green and in some of them we find mountain passes and on some of them, marks (*Judad*) of different colors. Abdullah Ibn 'Abbaas, may Allah be pleased with him, said: the *Judad* are mountain passes, and *Al-Gharabeeb*: the huge dark mountains (basalts); and when the Arabs describe a black, they say: black is *gharabeeb*...

And His saying:

﴿وَمِنَ النَّاسِ وَالْدَّوَابِّ وَالْأَنْعَامِ مُخْتَلِفٌ أَلْوَانُهُ كَذَلِكَ﴾

"And likewise of men and ad-Dawabb (moving living creatures, beasts), and cattle are of various color..."

meaning, likewise the animals amongst men and beasts - that is an animal that moves on four-feet and the livestock - by conjunction of the restricted to the general, likewise are of various colors. So, amongst men are the Berbers, the dark skinned, Europeans who have light skin and hair and the Arabs are in between, and the Indians are darker and as such, Allah, Most High, says:

﴿وَالْخِلَافَةُ أَلْسِنَتِكُمْ وَاللُّغَةُ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّمَعْلَمِينَ﴾

"And the difference of your languages and colors..." (Soorah Room 30:22).

Likewise there are the beasts and livestock with different colors even within the same sort we have different colors. Even from the same sort of animals some will have one color and others will have another. So, Blessed is Allah, the Best of creators.

After that, Allah, Most High, says:

﴿إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ﴾

"... only those that have knowledge among His slaves that fear Allah..."



3 Sister blue mountains of Australia



That is, those who truly fear Him are the scholars because the more the knowledge regarding the Greatest, the Ablest, the All-Knowing, the One described with the perfect attributes and to Whom the best names are attributed increases, the more knowing Him becomes perfect, the more His fear (in a servant) becomes greater.

(al-Jaaz al-Tameer fil Kitaab wa as-Sunnah by an-Naabtee)

The House has a Lord guarding it

These were the words confidently repeated by 'Abdul Muttalib, the grandfather of the Prophet, peace and blessings be upon him, in the face of an enemy attack upon the Ka'bah, and transmitted from him across generations. Modern-day science confirms this Divine protection that is bestowed on the Hejaz region. Thus, it is not subjected to the environmental and physical disasters that affect its surrounding regions. Modern research in physical geography and geology has confirmed that this region will not be affected by any of the environmental calamities like earthquakes, volcanic eruptions and agents of desertification despite such activities occurring in the zones around it.

The region of Hejaz, as explained by Dr. Tal'at Muhammad 'Abduh (associate professor of physical geography at Al-Azhar University), is a part of the great African Rift Valley fault which had affected eastern Africa since the third geologic period. The fault starts from the Zambezi River (between Zambia and Zimbabwe) and Lake Nyasa (in Malawi) in the south extending through the Red Sea to the Gulf of Aqabah and the Dead Sea, ending at the Lake Tiberias and the Jordan River in the north.

Hejaz Region...An enclosed region:

This great Rift Valley, as agreed upon from geographical, geological and geophysical studies, is at a stage known technically as "Crustal Breakup", that is, characterized by the breakup of some parts of the Earth's outer crust from another, which implies that it is a volcanic region of great activity. That is further established by the vast volcanoes on its surface that deformed the surface of the Ethiopian elevation that exposes numerous huge volcanic cones on its surface.

Allah's protection (over the region of Hejaz) becomes manifest in another form from the Red Sea at the Arabian Peninsula, considering that this was the site of only a small-scale volcanic eruption from which the volcanic rocks were formed, referred to by the Arabs as "Al-Harat". The Arabs had noticed these rocks from time and described them to be of stones burning with fire following flowing lava, and it is black



Volcanic Rocks "Al-Harat"

with strange striking forms. The Harat are considered one of the most striking ground physiographic symbols on a path traversing between eastern and western Hejaz such that even Al-Asma'i describes the region in its light by his mentioning that Hejaz as "the region enclosed by the Harat'."

Dr. Tal'at Abduh adds that between the early volcanic activity in Ethiopia and a minor one in the Arabian Peninsula, the Red Sea region, is full of faults that could drive active intense earthquakes. Thus, the Red Sea is only a large fissure from an assemblage of huge African Rifts but filled with water from the Indian Ocean so that it becomes a sea or gulf in length, like an arm of the Indian Ocean.

Geological surveys carried out by the German scientists, Drayk and Gerdler, about the seismic waves on the seabed of the Red Sea, whose



results were published in the *Magazine of the Royal Institute of Earth Science*, confirmed the presence of fault lines with basic volcanic rocks at their beds which implies that they continue to expel volcanic lava through its length till today.

In 1966, geologists measured the extent of the opening of the Red Sea with respect to the reef that runs perfectly at its middle as 2 centimeters per annum, which implies that the Red Sea is in continuous motion and expanding overtime in such a way that they agree that it will become an ocean in future and that, naturally, the rate of movement will increase due the volcanic activities and earthquakes.

#### Weak Form...threatens Hejaz

The Hejaz region have witnessed some vibrations and tremors in the Earth - as indicated by geographical and historical studies. Further establishing the geographical evidences is the point that through it, huge blocks of faulted rocks connected to the furrows of the Red Sea are found, and likewise the group of crevices of the "Qalzami" form (ascribed to the Qalzam Sea known as the Red Sea because it extends longitudinally in the direction of its length) and others of the "Mutawassit" kind (ascribed to the Mutawassit Sea because it extends transversely in the direction of its length) and the Harat had penetrated its length at the valleys of Madinah, like the longitudinal 'Aqeeq Valley and the transverse Humd and Qanat Valleys.

Geographical studies carried out by the researcher, Fischer, in 1979 point to the presence of lines of weak form passing by every region



Red Sea

of Hejaz, so that its rock composition is non-homogenous in such a way that hard rocks are placed on relatively weaker and fragile rocks, making the spaces susceptible to rock collapse. This line begins from the Tihamah province west of the Arabian Peninsula passing by Jabal Al-Hejaz province and the highlands of Najd.

The signs of weak form extend along that line from the active flow of volcano (of Al-Harat) and from the appearance of faulting and rock indentations which imply that it is within the Hejaz region. In its transverse direction, a number of the spaces are susceptible to active volcanoes and earthquakes. Allah has protected the region from being subjected to what other adjacent regions experience of destructive earthquakes, such as the one that destroyed Ma'arib Dam in Yemen. They or occur repeatedly in adjoining areas of Eelaat, Aqabah, Suways and Fayoom despite the fact that Hejaz is a region that cannot be separated from the Red Sea split, considered part of the great African Rift.



Clay Rocks Surrounding Riyadh



## A Region Opposed to Desertification

Allah's protection over the Hejaz region from environmental hazards is not restricted to the facts mentioned above; rather it extends to the region also being protected from desertification. Thus, despite being entirely within the hot dehydrated desert region, its rock (lithological) composition changes between massive metamorphic rocks in the lower rock layer which does not allow water seepages and above it, a layer of weathered volcanic rocks which aids in the percolation of rainwater through the pores of the rocks. As such, it purifies it from rock fragments and aggregates below it so that it collects between it and the massive metamorphic rocks at shallower depths.

Thus, it prevents the evaporation of water by the scorching sun rays, and the region is protected against drought-related agents of desertification. In fact, the area is characterized by the abundance of water sources like the Zamzam well and other wells and springs spread around Taif. Therefore, Allah's protection of His Sacred House from earthquakes, volcanic eruptions and desertification, dryness and all natural disasters and all evils throughout history becomes manifest.

(Tal'at Muhammad Abduh - *Geographiyyah At-Tarikhiyyah Fil Pleistocene* - Maktabah An-Nahadah Al-Masriyyah, Cairo. Abdul "Aziz Saleh - *Sharq Al-Adna Al-Qadeem - Taba'ah Ath-Thalitha*).



Dandelion seeds flying in the blue sky

## Fertilizing Winds

The miraculous verse:

﴿وَأَرْسَلْنَا الرِّيحَ لَوْفِعَ لُؤْلُؤًا مِّنَ السَّمَاءِ مَاءً فَاسْقَيْنَكَوْهُ وَمَا أُنشِرْ لَهُ يَحْيِيْنَ﴾

"And We send the winds fertilizing (to fill heavily the clouds with water), then caused the water (rain) to descend from the sky, and We gave it to you to drink, and it is not you who are the owners of its stores." (Soorah Al-Hijr 15:22).

Lexical Interpretation:

It is stated in *Mukhtar As-Sihah* regarding the subject (*laqaha*) that *laqaha* the male (*alqaa*) fertilizes the she-camel and the wind is air moving across the Earth, and the winds (*lawaqih*) fertilize, and you should not say (*malaqih*) pollinates, for it is from the rarities. It is said that the basis is *mulhiqatun*, a supplement, but it cannot fertilize except if it is itself supplementary; for example, the winds supplement with something good and when the winds moving across the Earth originate they contain good that gets to it.



## The Commentator's Understanding

'Abdullah Ibn 'Abbaas, may Allah be pleased with him, regarding the commentary of Allah's saying, "and We send the winds fertilizing..." said: "Fertilizing the plants and clouds." This is also the position of Qatadah and Ad-Dahak from the students of the Prophet's Companions. At-Tabari and Qurtubi have also mentioned the saying. Some of the scholars of Qur'anic exegesis say *lawaqih* (that is, plural form of fertilize) is the plural of *laqih*, meaning - bearing the cloud and good and its opposite is a barren wind.

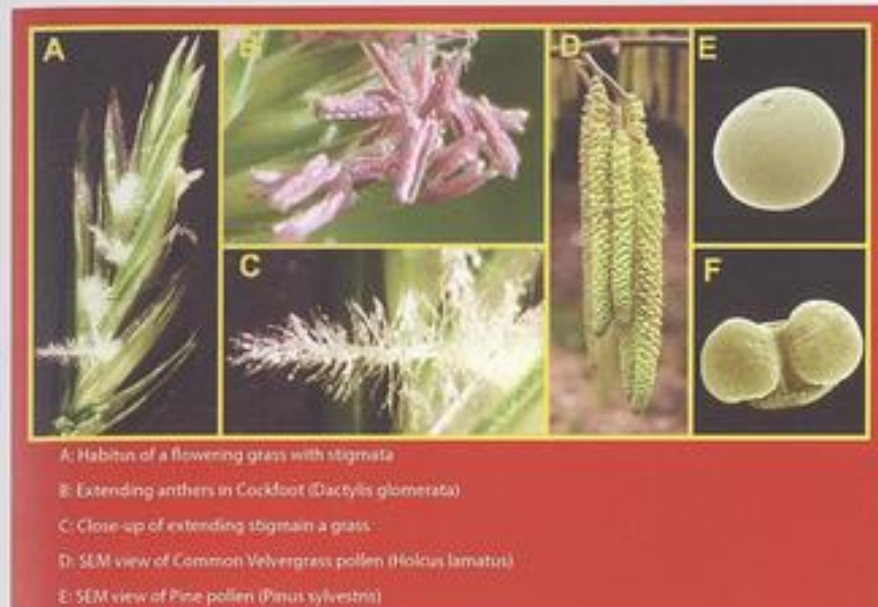
Based on the first position, *lawaqih* is the plural of *mulhiqatun* and based on the second, it will be the plural of *laqih*. There is no contradiction between both, for the leader of the scholars of Qur'anic exegesis, At-Tabari has assented to both positions together and that is because the winds fertilize water and plants and by that it is bearing supplements (pollen) and by that it supplements itself. Likewise, it is supplemented by other than it and its fertilizing the plants is its action on them.

Wind pollination is vital for fertilization especially for flowering plants that do not attract insects.

## Scientific Explanation:

Allah, Most High, says in His Noble Book:

﴿وَأَرْسَلْنَا الرِّيحَ لَوْفِحَ فَاْرَتَنَا  
مِنَ السَّمَاءِ مَاءً فَأَنْبَتْنَا كُفُّوهُ وَمَا  
أَنْشَرْنَاهُ بِعَذْرَيْنِ﴾



A: Habitus of a flowering grass with stigmata  
B: Extending anthers in Cockfoot (*Dactylis glomerata*)  
C: Close-up of extending stigmata in a grass  
D: SEM view of Common Vervgrass pollen (*Holcus lamatus*)  
E: SEM view of Pine pollen (*Pinus sylvestris*)

"And We send the winds fertilizing (to fill heavily the clouds with water), then cause the water (rain) to descend from the sky, and We gave it to you to drink, and it is not you who are the owners of its stores." (Soorah Al-Hijr 15:22).

It is stated in the explanation of this Verse that the winds are the fertilizers of the trees and the clouds and that is the saying of Ibn 'Abbas, may Allah be pleased with him. Botanists have opined that pollination is a basic phenomenon for fertilization and the production of seeds considering that the pollen grains are transferred from the male structure of a plant to the female structure where fertilization takes place. Pollination could occur between pollen transferred from the stamens to the pistil within one flower (referred to as self-pollination) and could be between different plants of the same species (referred to as cross-pollination).

The means of transfer of pollen grains vary from plant to plant: while some are transferred by man - as in the fecundation of dates, for example, there are three other methods:

- ♦ Pollen transferred by pollinators like bees, butterflies and other insects and birds.



♦ Pollen transferred by water ♦ Pollen transferred by wind (anemophily).

Winds have important roles in the process of pollen transfer in plants that do not have fragrance, or nectar or showy petals that attract insects since the winds transfer the pollen over distant places. For example, the pollen of pines which are naturally equipped with air sacs could be transferred over a distance of 800 km (although the grains may lose their viability in the process) before it reaches the female structures of the plant and completes pollination. Other plants that rely on wind-



pollination are the pine, stinging nettle, poplar and hazelnut.

The *New British Encyclopedia* mentions that the flowers in wind-pollinated plants may be placed very high on the plant and they may move easily in the breeze, shaking out the pollen, or the pollen containers burst open in an explosive fashion when the sun hits them, scattering the pollen widely into the air.

Are these scientific facts not corroborations to what is said in the Book of Allah:

﴿وَأَرْسَلْنَا الرِّيحَ لَوَاجِحَ فَأَرْزَأْنَا مِنَ السَّمَاءِ مَاءً فَتَسْقُونَ مَاءً وَمَا أَنْشَرْنَاهُ إِلَّا بِعَذَابٍ﴾

"And We send the winds fertilizing (to fill heavily the clouds with water), then caused the water (rain) to descend from the sky, and We gave it to you to drink, and it is not you who are the owners of its stores." (Soorah Al-Hijr 15:22).

Was Prophet Muhammad, peace and blessings be upon him, a botanist to issue statements like these or is he the unlettered Prophet? Or did he receive lessons about plants when he was a resident of the deserts more than fourteen centuries ago?

Scientific References:

According to the *Scientific Encyclopedia* wind pollination is peculiar to plants that do not have fragrance or nectar or showy petals that attract insects, since a large amount of dry weightless pollen grains are produced and dispersed by the passing wind over long distances to get to the female structures of the plant. The large number of the pollen grains present in the wind can cause serious allergies in people.

The *New British Encyclopedia* mentions: To facilitate exposure of the flowers to the wind, flowers bloom before the leaves are out in spring, or the flowers may be placed very high on the plant. The stigmas often are long and divided into arms or lobes, so that a large area is available for catching pollen grains.







#### Point of Wonder:

The point of wonder in the Verse is its pointing to the phenomenon of wind-pollination. He, Most High, says:

﴿وَأَرْسَلْنَا الرِّيحَ لَوْفِحَ الْاَرْضِ فَأَنزَلْنَا مِنَ السَّمَاءِ مَاءً فَأَنبَتْنَا كُنُوزَهُ وَمَا أَنشَرْنَاهُ إِلَّا بِعِزِّ رَبِّ﴾

"And We send the winds fertilizing (to fill heavily the clouds with water), then caused the water (rain) to descend from the sky, and We gave it to you to drink, and it is not you who are the owners of its stores." (Soorah Al-Hijr 15:22)

and this is what botanists discovered in the last century.

#### Summary:

Wind: Air mass moving from the areas of high pressure to those of lower pressure which are attributable to temperature differences also caused by unequal distribution of heat from the sun, together with differences in the thermal properties of land and ocean surfaces. The

wind varies in its direction, speed, strength and effects.

The word *reeh* or *riyah* (wind) occurs fourteen times in fourteen chapters of the Noble Qur'an, some of which are blessings for mankind and glad tidings of rain to enliven life on Earth and ensure good growth. However, some were sent to destroy arrogant, defiant people and ruin them.

The wind has a great role to play in the formation and accumulation of clouds over one another, and their being raised to the upper strata, their association with different condensation materials and the discharge of electric charges. This is the great role of the winds which has been affirmed by modern scientific research and has been mentioned by Verses of the Qur'an more than fourteen hundred centuries ago even before our earthly sciences affirmed them; and in this scientific precedence are the Verses of wonder.

﴿إِنَّهُ الَّذِي يُرْسِلُ الرِّيحَ فَتُبَثِّرُ سَحَابًا فَيَبْسُطُهُ فِي السَّمَاءِ كَيْفَ يَشَاءُ وَيَجْعَلُهُ كِسْفًا فَنَرَى الْوَدْقَ يَخْرُجُ مِنْ خِلَالِهِ فَإِذَا أَصَابَ يَدٍ مِنْ عِبَادِهِ إِذَا هُمْ يَسْتَبْشِرُونَ﴾

"Allah is He Who sends the winds, so they raise clouds, and spread them along the sky as He wills, and then break them into fragments, until you see rain drops come forth from their midst! Then, when He has made them fall on whom of His slaves as He will, lo! they rejoice!"

From modern studies we discover various kinds of winds based on their interactions with clouds:

1. Those whose functions are restricted to agitating the surface of water to bring about water droplets above the wave surface.
2. Those that move the clouds after their formation and their ascension by taking water vapor to higher levels in the atmosphere.
3. Those that control the movement of clouds with ease and gradual accumulation.
4. Those that divide rain-bearing clouds and distribute them in different localities.



This division is evinced by the various forms of winds and the chain of their actions in the phenomena of cloud condensation and the stages of cloud formation -- from the impact on the water surface to the conveyance of water vapor and from its ascension to its gradual movement, distribution and descent on whom and what Allah, Most High, wills.

In *Soorah Adh-Dhaariyat*, the Creator, Most High, swore by the various forms of winds as is known by modern science:

﴿وَالَّذِينَ ذَرَوْا ؕ﴾ ١ ﴿فَأَخْلَعْنَاهُ وَفَرَّ﴾ ٢ ﴿فَلَجَّرْنَاهُ بَشْرًا﴾ ٣ ﴿فَالتَّقِيْمَتِ أَمْرًا﴾ ٤

"By (the winds) that scatter dust. And (the clouds) that bear heavy weight of water; and those that float with ease and gentleness; and those who distribute (provisions, rain, and other blessings) by (Allah's) Command." (Soorah Adh-Dhaariyat 51:1-4)

He, Most High, swore by the winds that agitate the dusts and water vapor - *By (the winds) that scatter dust* - and then by the winds that convey the heavy clouds as water vapor to higher levels by vertical uprising transporting currents - *(the clouds) that bear heavy weight of water* - and then by the winds that move with the clouds with every gentleness and ease - *and those that float with ease and gentleness* - and then by the winds which divide the various rain-bearing clouds and distribute them on the earth as Allah, Most High, wishes as rains of blessings or destruction and ruin - *And those who distribute (provisions, rain, and other blessings) by (Allah's) Command*. What a wondrous conformity between the results of modern science and the Verses of the Noble Qur'an, in which the sequence of various stages of cloud formation appear like marvellously depicted scenery.

Modern science also affirms the role of the winds in the impregnation of various forms of clouds with condensation materials and by the phenomena of negative and positive electric discharges in the cloud to prepare the conditions for rainfall. It also affirms the role of the winds in the transfer of pollen from male structures of the plants to the female structures to fertilize it.

Two cycles of fertilization:

1. The first stage: Lightning is generated, which travels at a speed of 360,000,000 km/h and thunder 333 m/s with an interval of five seconds every mile and from this, the distance between an observer and the (lightning bolt) cloud can be estimated.
2. The seeds are formed and plants are pollinated by the transfer of pollen grains.

These two cycles are mentioned in the Qur'an regarding the (fertilizing) wind; Allah, the most High, says:

﴿ وَأَرْسَلْنَا الرِّيحَ لَوَاقِحَ فَأَنزَلْنَا مِنَ السَّمَاءِ مَاءً فَأَسْقَيْنَاكُمُوهُ وَمَا أَنتُمْ لَهُ بِخَائِرِينَ ﴾

"And We send the winds fertilizing (to fill heavily the clouds with water), then caused the water (rain) to descend from the sky, and We gave it to you to drink, and it is not you who are the owners of its stores." (Soorah Al-Hijr 15:22).







## The Shadow (Refraction of light rays)

Allah, the Almighty, says:

﴿أَلَمْ تَرَ أَنَّ رَبَّكَ كَيْفَ مَدَّ الظِّلَّ وَلَوْ شَاءَ لَجَعَلَهُ سَاكِنًا ثُمَّ جَعَلْنَا الشَّمْسُ عَلَيْهِ دَلِيلًا﴾

"Have you not seen how your Lord spread the shadow. If He Willed, He could have made it still then We have made the sun its guide [i.e. after the sunrise, it (the shadow) squeezes and vanishes at midnoon and then again appears in the afternoon with the decline of the sun, and had there been no sun light, there would have been no shadow]." (Soorah Furqan 25:45).

The shadow here refers to the shadow in its general sense whether it is that of animals or plants or inanimate things based on the implications

that the night is from the shadow of the Earth. The Verses invite to our considering the creations of Allah Who has perfected the creation of all things, as we observe in the shadow. He is the One Who created it, its means and limits, for if He, most High, willed He would change its characteristics and make it still without motion or make it disappear altogether, as it occurs in some stars. Like Neptune (Utaarid) for example, the nearest star to the sun: its night is always night and its day is always day and shadows on it would be motionless.

Allah, the Mighty and Sublime, has made the sun as a mark for the shadow. Thus, through it (the sun), it (the shadows) becomes known and defined. In this way, He, the Mighty and Sublime, presented one of His Signs in the universe and one of His miracles to our generation: the shadow.

﴿ثُمَّ قَفْضَهُ إِلَيْنَا قَفْضًا بَيْرًا﴾

"Then We withdraw it to Us a gradual concealed withdrawal." (Soorah Furqan 25:46).

It is important to note that the shadow which is mentioned with the words "We withdraw to Us a gradual withdrawal" is the shadow (images created by the light rays from the sun). As for the shadows (images) from a lamp, for example, or the glow of fire, it will not fall under the meaning of the Verse.

Allah, the most High, has not left the shadow that





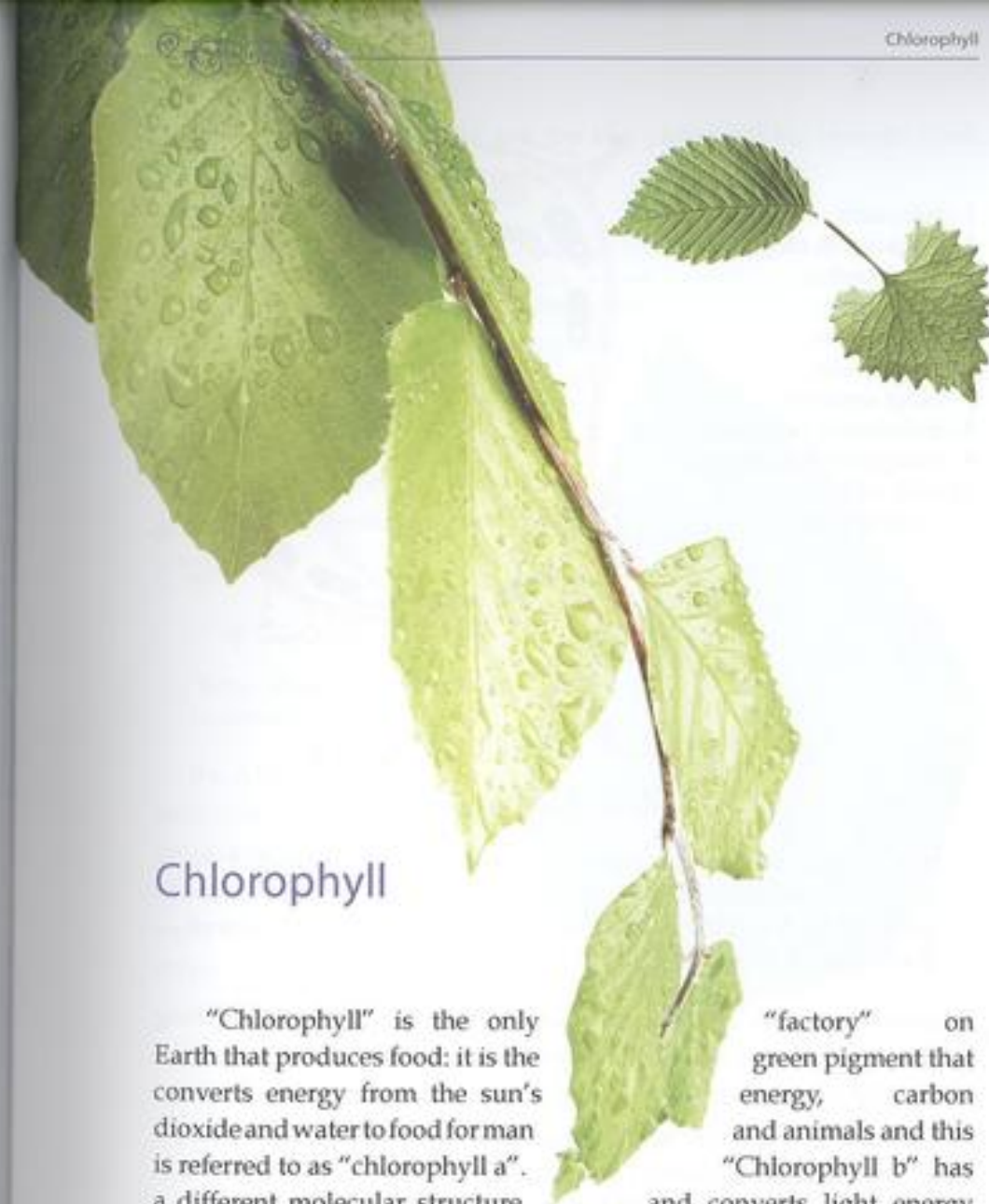
forms on the Earth due to the (rays from) the sun in its original length; rather, he reduced it a bit and made it smaller or shorter than that. For proper explanation and understanding of the Verse, it is necessary that we study the phenomenon of refraction of rays as they pass through one medium to others with varying densities.

- Light rays travel in continuous straight lines in a homogenous medium with a particular density until they hit another medium with a different density; it passes through – if it is possible – after its line of travel is bent appropriately based on the variation in density in both media. Most of us have observed this phenomenon when an upright stick dipped in water appears bent in the water, while the other end is upright in the air. If it is removed from the water, it is found straight and if returned it is found bent.

You may have wondered about the reason for this. The reason is that the rays deviate (refract) as they move from the water to air due to the variation in density of both media, and so the stick appears bent.

- We return to the shadow formed due to sun rays. Rays emanating from the sun travel in space in straight lines until some of them hit the Earth's atmosphere which has a relatively higher density. The ray bends to travel in another straight line at a particular angle. Thus, we know that the phenomenon of refraction is the cause of the gradual withdrawal of the shadow.

(al-Isloom wa Haqaaiq al-'Ilmiyyah by Mahmood al-Qasim)



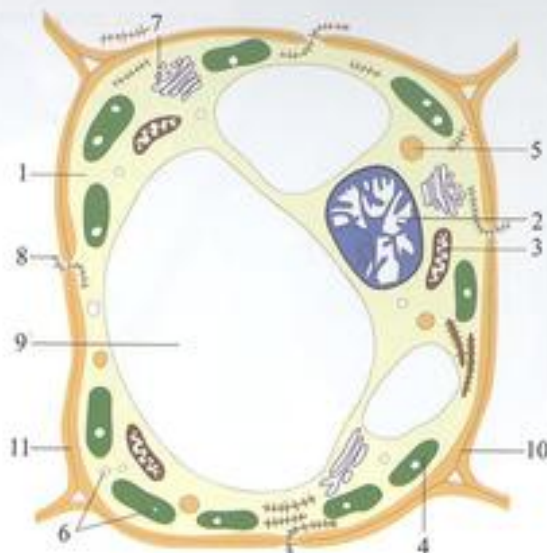
## Chlorophyll

"Chlorophyll" is the only Earth that produces food: it is the converts energy from the sun's dioxide and water to food for man is referred to as "chlorophyll a". a different molecular structure from the sun, followed by a complex chemical reaction that produces sugar and then starch. Therefore, the basis of the formation of seeds and fruits is this green "factory". Thus, the question arises: who makes the plant grow? Who designed its system? It is Allah, the Mighty and Sublime. He says in His Noble Book:

"factory" on green pigment that energy, carbon and animals and this "Chlorophyll b" has and converts light energy



- 1 - cytoplasm;
- 2 - nucleus with chromatin;
- 3 - mitochondria;
- 4 - chloroplasts;
- 5 - chromoplast;
- 6 - starch grains;
- 7 - Golgi apparatus;
- 8 - endoplasmic reticulum;
- 9 - vacuoles with inclusions;
- 10 - cell wall;
- 11 - median plate.



﴿وَهُوَ الَّذِي أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا مِنْهُ شَجَرًا كُلِّ ثَمَرٍ  
فَأَخْرَجْنَا مِنْهُ خَضِرًا نُخْرِجُ مِنْهُ حَبًّا مُتَرَاكِبًا﴾

"It is He Who sends down water (rain) from the sky, and with it We bring forth vegetation of all kinds, and out of it We bring forth green stalks" (every green thing) "from which We bring forth thick clustered grain." (Soorah Al-Ana'm 6:99).

Scholars of Qur'anic exegesis said: "Khadran" means something green. Ibn Al-Jawzi said regarding the Qur'anic Verse: "from which We bring forth Khadran" two sayings: the second from the plants...and "Khadar", meaning - the green. Az-Zamakhshari said: "from which We bring forth" from the plants; "Khadran" he said means something lush green. Baydawi said: "from which We bring forth" that is, from the plants; "Khadran" he said means something green. Al-Khazin said: "from which We bring forth Khadran" He means green. An-Nasfei said: "from which We bring forth" from the plants; "Khadran" he said means something lush green. This was also the opinion of Abu As-Su'ood and the two Shaikhs.

Al-Alloosi said: Qurtubi and Ibn Hayyaan said: We brought forth from the plants something green:

﴿وَهُوَ الَّذِي أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا مِنْهُ شَجَرًا كُلِّ ثَمَرٍ﴾

"It is He Who sends down water (rain) from the sky, and with it We bring forth vegetation of all kinds, and out of it We bring forth green stalks"

that is, from the plants we bring forth from it, meaning - from this green thing:

﴿نُخْرِجُ مِنْهُ حَبًّا مُتَرَاكِبًا﴾

"from which we bring forth clustered grains".

Ibn Al-Jawzi said: we bring forth from it, that is - from the green thing - clustered grains like wheat and barley clustered such that some are above the other.

Az-Zamakhshari said:

﴿نُخْرِجُ مِنْهُ حَبًّا مُتَرَاكِبًا﴾

"from which we bring forth clustered grains".

meaning - from the green thing, clustered grains and these are wheat and barley. So, ponder along with me in the way the scholars of exegesis explain the saying of Allah, the Mighty and Sublime, "from which We bring forth Khadran" meaning from the green substance. Surely, they did not know about chlorophyll or its role but the words of the Qur'an defined it for them and made the path clear:





﴿فَأَخْرَجْنَا مِنْهُ خَضِرًا نُخْرِجُ مِنْهُ  
حَبًّا مُتَرَاكِبًا وَمِنْ أَلْفَاكٍ مِنْ طَلْحِهَا فِتْنَةٌ دَابَّةٌ وَجَعَلَتْ مِنْ

"And with it We bring forth vegetation of all kinds, and out of it We bring forth green stalks, from which We bring forth thick clustered grain. And out of the date palm and its spathe come forth clusters of dates hanging low and near, and gardens of grapes..."

In these Verses, "Jannaat" is in the accusative case, why? So that we can also bring forth gardens of grapes, olives and pomegranates, each similar (in kind) yet different (in variety and taste). Who informed Muhammad, peace and blessings be upon him, the unlettered Prophet, to specifically mention this green substance from which the plants come forth? There are some plants and from them something green is brought forth which produces the grains and seeds and fruits and other parts of the plants. Who explained this to him? Who defined the functions of this green substance? Who knew what it contained, this knowledge is only from Allah, the Mighty and Sublime.

(al-Ilal) Huwa al-Ilal by Shaykh AbdulMajeed az-Zindaanee



## Fear and the Rain

The first campaign Muhammad, peace and blessings be upon him, engaged in was the momentous battle between disbelief and Islam during the Battle of Badr, when the Muslims marched out in their small number intending to intercept a trade caravan of the disbelievers. Eventually, the Muslims had to face a large strong army, greater than them in number and equipment, and when the battle started the disbelievers appeared sure to be victors.





Allah, Most High, says:

﴿وَإِذْ يُرِيكُمُوهُمْ إِذِ الْتَقَيْتُمْ فِي أَعْيُنِكُمْ قَلِيلًا وَيُقَلِّلُكُمْ فِي أَعْيُنِهِمْ لِيَقْضِيَ اللَّهُ أَمْرًا كَانَ مَفْعُولًا﴾

"And (remember) when you met (the army of the disbelievers on the Day of the Battle of Badr), He showed them to you as few in your eyes and He made you appear as few in their eyes, so that Allah might accomplish a matter already ordained (in His Knowledge), and to Allah return all matters (for decision)." (Soorah Al-Anfal 8:44)

The disbelievers appeared sure to be victors because the Muslims were small in number, slightly more than three hundred. As for the disbelievers, they were about a thousand including about two hundred horsemen, and each of the horsemen would equal about ten fighters (footmen). So, in order to gain victory on the battlefield the Muslims began to seek Allah's assistance saying: "O Allah! Whoever is on the right amongst us assist him..."

But Allah does not abandon His servants, He did not abandon His Messenger, peace and blessings be upon him, who known that this was a decisive war and so, he sought Allah's help and Allah revealed the words:

﴿إِذْ تَسْتَعِثُونَ رَبَّكُمْ فَاسْتَجَابَ لَكُمْ أَنِّي مُمِدُّكُمْ بِالْأَلْفِ مِنَ الْمَلَائِكَةِ مُرَدِّفِينَ ﴿٩﴾ وَمَا جَعَلَهُ اللَّهُ إِلَّا بُشْرًا وَنَظْمًا بِرَبِّ قُلُوبِكُمْ﴾

"(Remember) when you sought help of your Lord and He answered you (saying): 'I will help you with a thousand of the angels each behind the other (following one another) in succession. Allah made it only as glad tidings, and that your hearts be at rest therewith.'" (Soorah Al-Anfal 8:9-10)

As soon as the Muslims began to see Allah's soldiers amongst them, their hearts became contented, and there is no victory except from Allah; not from the angels and not from man. Finally, what happened? They were all overcome by sleep that Allah has made a blessing for man, for when we sleep our bodies become replenished after exertion and tiredness. Allah, wishing to go against what is generally known in such circumstances, made sleep overtake the terrified Muslims on the night before the battle all at the same time. Thus, every one of them slept deeply and their resolve grew strong, in fact, some of the Muslims had wet dreams and became sexually impure by morning. ShaitanShaitan came and said:



Rain drops on a plant

"How can you go for a battle while in the state of sexual impurity? How can you fight and then meet your Lord while sexually impure?"

Allah caused the machinations of Shaitan to fail and dropped rain from the heaven that they may purify themselves with and be rid off the machinations of Shaitan.

Doctors say that in the state of fear, certain substances are secreted in the blood and the body shivers and is not stable as a result and one of the means by which the body stabilizes and can reduce the secretion of these substances is to shower water on the person in this condition.



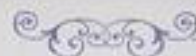
Rainfall is also from the physical means that Allah has made a cause for steadfastness of Muslims by reducing this substance in the blood and physically fortifying the land upon which the fighters on the path of Allah marched with the Messenger of Allah, peace and blessings be upon him. Do you know what happened when the two groups met? At the commencement of combat between both groups – the army of the Muslims with the angels and those of the disbelievers – the Muslims appeared to increase in number in the sight of the disbelievers so much so that they appeared twice their number after they had seen them small in number.

Allah, Most High, says:

﴿قَدْ كَانَ لَكُمْ آيَةٌ فِي الْغَنَاءِ وَقَدْ تَقَدَّسَ فِي سَبِيلِ اللَّهِ وَأَخْرَجَ كَافَّةً مَرُودَهُمْ  
وَسَلَّيْنَهُمْ رَأَى الْعَيْنُ وَاللَّهُ يُؤَيِّدُ بِنُصْرِهِ مَنْ يَشَاءُ إِنَّ فِي ذَلِكَ لَآيَةً لِّأُولِي الْأَبْصَارِ﴾

"There has already been a sign for you (O Jews) in the two armies that met (in combat i.e. the Battle of Badr): One was fighting in the Cause of Allah, and, as for the other, (they) were disbelievers. They (the Believers) saw them (the disbelievers) with their own eyes twice their number (although they were thrice their number). And Allah supports with His Victory whom He pleases. Verily, in this is a lesson for those who understand." (Soorah Aal 'Imran 3:13).

(al-Im Tareeq al-Farhan, by Shaykh Abdul Majeed az-Zindane, with some modifications)



## The Mysteries of the Clouds

Allah, the Most High, says:

﴿الْقُرْآنُ اللَّهُ يُرْسِي سَعَابًا ثُمَّ يُلَافُ يَبْنِيهِ، ثُمَّ يَجْعَلُهُ رُكَّامًا فَتَرَى الْوَدْقَ  
يَخْرُجُ مِنْ خِلَالِهِ، وَيُنْزِلُ مِنْ أَسْفَلٍ مِنْ جِبَالٍ فِيهَا مِنْ﴾

"See you not that Allah drives the clouds gently, then joins them together, then makes them into a heap of layers, and you see the rain comes forth from between them. And He sends down from the sky hail (like) mountains." (Soorah An-Noor 24:43).

And He, the Mighty and Sublime, says: "And We have brought but poor capital..." meaning – what is spent gradually.

### A Study of the Formation of Cumulus Clouds

Cumulus clouds begin to form from dispersed clouds that are gradually pushed by the mild wind driving the clouds and then they join together. Cumulus clouds form when two clouds join together or when one quickly builds up and when this happens, the air current



(thermals) that spontaneously arise in the middle rise to the top. Once a thermal emerges as a cloud turret at the summit or the flanks of the cloud, rapid evaporation of the droplets chills the cloud borders, destroys the buoyancy, and produces sinking. This is the joining together mentioned in the Qur'an:

﴿الَّذِينَ أَنْزَلَ اللَّهُ بِرُوحِهِ سُبْحَانَكَ يُجَاءُ بِالسَّحَابِ فَتَجْتَمِعُ عَلَيْهِمْ﴾

"See you not that Allah drives the clouds gently, then joins them together..."

Thereafter, it builds up from top to bottom layering the clouds one above the other - a heap of layers and as such, the verse reads - "...then makes them into a heap of layers..."; and after a while (shorter than the time it took between the joining together and forming of layers) - "...and you see the rain comes forth from between them..." for as the layering stops, it begins to weaken and as it weakens the rains follow and as such, He said: "...and you see the rain comes forth from between them..." Glorious is Allah!

How many a time do people see the cloud...? Did they know its mystery? Each time men increase in knowledge, their faith increases that this Qur'aan is from Allah - the Glorious and most High - and that it is true which falsehood cannot come to from before it or behind it. (Wa Gadaa 'Asr al-Emaan by az-Zindaanee)



## Rain comes down in due measure and revives the dead land

Allah, may He be exalted, says in His Holy Book:

﴿وَالَّذِي نَزَّلَ مِنَ السَّمَاءِ مَاءً يَقْدِرُ فَأَنْشُرَنَا بِهِ. بَلَدًا مَيِّتًا كَذَلِكَ نُخْرِجُوهُ ۝﴾

"And Who sends down water (rain) from the sky in due measure, then We revive a dead land therewith, and even so you will be brought forth (from the graves)" (Soorah Az-Zukhruf 43:11).

This Verse is very important from a meteorological point of view. Those who read this Verse fifty years ago could not have found anything extraordinary in it because materialistic scientists in the 19th century defined rain as what resulted when water in the form of vapor condenses due to a drop in temperature and turns back into liquid.





In other words, they described the process of clouds turning into rain in very simple, superficial and incomplete terms. That was because science did not yet understand how complex this process is. Because it was not possible to ask these atheist scientists these questions, the questions listed below were not put to anyone:

1. How can clouds in the upper strata of the atmosphere, where temperatures are as low as  $-40^{\circ}\text{C}$ , such as the clouds over Siberia, remain as clouds? How come they do not condense and freeze, then fall to Earth in the form of solid blocks on the heads of these who make false claims?
2. Why does a drop of water reach a particular size? How does this drop fall down to Earth with some kind of balance? In other

words, what are the conditions for the formation of the drop that reaches the ground very gently without much disturbance to the ground?

3. How is the vapor in clouds formed? Where does the salt that is present in the clouds come from, if salt does not evaporate with water when temperatures reach that level?

Science has tried, during the last 20 years, to answer such questions as these and it has managed to answer most of them.

Now let us read the Verse once more and find the important points in it.

Allah, may He be Exalted, describes the descent of rain as a physical phenomenon that is very important; as important as bringing the dead back to life. Hence He says:

﴿وَالَّذِي نَزَّلَ مِنَ السَّمَاءِ مَاءً يَقْدَرُ فَأَنْشَرَنَا بِهِ. بَلَدًا مَيْتًا كَذَلِكَ نُخْرِجُوكَ ۝﴾

"And Who sends down water (rain) from the sky in due measure, then We revive a dead land therewith, and even so you will be brought forth (from the graves)" (Soorah Az-Zukhruf 43:11).

When the Qur'an describes rain, it describes it as coming down in due measure, properly calculated. "Water ... in due measure", i.e., according to some measures and estimations. This is the definition of mathematical formulae.

"then We revive a dead land therewith". This phrase appears in the middle of the Verse, and it is not a simple or ordinary phrase, because the Verse does not say that rain leads to the bringing forth of vegetation. Rather it says "then We revive a dead land therewith", i.e., We give life to dead land. We will discuss the meaning





of this Verse below.

So this Verse refers to secrets that have to do with scientific miracles to a large extent. Now let us sum up the miracle of rain from a scientific point of view.

The latest scientific research has explained many points that were previously unknown to us about water, clouds and rain. The outcome of this research has shed more light on the miracle in the Verse quoted above. We may sum up the outcome of this research in the following points:



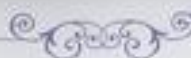
1. One American scientist, Vincent Schaefer, stated that water particles, if they are clean, completely pure and very small, do not freeze until the temperature reaches  $-40^{\circ}\text{C}$ . In order for water to freeze at  $0^{\circ}\text{C}$ , its mass should be large and it should not be completely pure. Clouds are a form of water vapor that quickly turns into very small particles of water; in other words, a cloud has a very particular physical composition. This is the reason why the regular characteristics of water are not applicable to it. Hence, we see that the clouds in the atmosphere do not freeze and do not fall to Earth as frozen water, even if the temperature drops to  $-30^{\circ}\text{C}$ .

2. Clouds are formed from very small particles of water which are gathered around particles of salt or cosmic dust. The basic element of rain is these particles of salt or cosmic dust which form the nucleus of every small particle of water. No one knows until now where this cosmic dust comes from, just as no one knows how the salt particles end up in the clouds. But it is believed and thought that they are the result of evaporation that takes place near the ocean surface, as the salty water carries with it particles of salt when it evaporates.
3. It is thought that one cubic millimeter of cloud contains one billion small particles of water and that between 50 and 5,000 droplets of rain are formed in each cubic centimeter of the clouds, and that these droplets turn into rains drops according to precise measures or calculations. Up until 1950, the theory of [[Bergrun? Berggruen? Findus?]] about clouds was sufficient to explain the formation of water drops. This theory said that water droplets originally form a frozen center, and as a result of other droplets gathering around these frozen centers, rain occurs.
4. Recent scientific research indicates that the increase in size of water droplets in clouds has to do with many factors and conditions and that the size of any water droplets increases gradually and is dependent on many complicated and interconnected factors; these droplets are even able to overcome atmospheric conditions where temperatures fall to  $-40^{\circ}\text{C}$ .
5. As to how rain is formed, it is as follows:

Small particles of water gather around the nucleus mentioned above and increase in size. As the drop of water starts to fall down, the area of its surface increases as it approaches the ground, which makes it more balanced with the carrying force of the air, so it falls gently to the ground. This balance is another Divine miracle, because the drop of water gains speed as time passes during its fall, reaching an appropriate speed, so that when it reaches the ground it falls as if it has a parachute.

In the light of the scientific facts, let us read the first part of the 11th Verse (of Soorah Az-Zukhruf): "And Who sends down water (rain) from





the sky in due measure".

So the fall of rain is something very precise which is subject to very complicated calculations.

If we compare that with the third phrase of this Verse we will realize that the issue of rain is a Divine miracle, akin to the miracle of giving life to the dead.

Modern science, especially the science of meteorology, regards the formation of rain and its falling to the ground as a scientific miracle. Hence, many volumes have been written about it.

I advise any readers who want further information on this topic to refer to the following scientific books:

*Elements of Cloud Physics*, by Horace Robert Byers

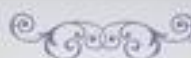
*Cloud Physics and Cloud Seeding*, by Louis J. Battan

Now let us return to the meaning of the second phrase of the Verse: "*Then We revive a dead land therewith, and even so you will be brought forth (from the graves)*".

There is a secret, dead land beneath the soil when the soil is dry. That is because the soil is in fact alive, and this vitality emerges when rain falls. What does science say about this matter?

There are huge numbers of bacteria in the soil, as many as one million in one g of soil. When rain is withheld for a long time, these bacteria lose their vitality and it is transformed into what may be described as a dead genetic code. When rain falls, these bacteria regain their vitality and begin their production campaign, and the first thing they produce is nitrogen. This activity leads to giving life to thousands of small living beings. Thus life begins to be restored beneath the soil as the fertilizer (nitrogen) is formed, and many small seeds, which would never cross one's mind, begin to sprout: roots begin to spread down, making tunnels beneath the soil which act like roads in cities. Then small insects and plants begin to build their homes there, and it becomes like a city that is formed beneath the soil. Thus a dead city is transformed into a living city full of life and movement.

What is the secret behind the rain's giving life? How can rain revive biological functions and bring back life?



In this context, the Verse directs our attention to the connection of rain, and hence, water, with life and calls upon us to understand this relationship. The basic chemical material of living beings is DNA. These molecules contain many particles, among which are some particular particles which help life to continue and preserve it. These are the hydrogen clesent [??] particles which are known as the hydrogen bridge or hydrogen connection. These hydrogen particles change continually, forming different bonds to create new particles. Thus they transfer and perpetuate life. These hydrogen particles can only interact with other hydrogen particles that appear when water is ionized and turned into oxygen and hydrogen particles.

This rule applies to all living beings, without exception. If any living being is left without water, it preserves its DNA particles and genetic code, but these particles and codes occur in an isolated and solid form, and cannot grow or move. But if they are given water, which releases hydrogen particles when it is ionized, the living genetic code begins to move.

It may be noted that this law applies to germs in particular, in a very simple manner. As for the large living beings that are complex in formation, lack of water for a long time causes their tissues to atrophy and diminish. Hence, if water becomes available after that, life can never be restored to those beings and they remain dead.

Thus restoring life to the dead land is based on this precise biological law. If we had understood what we read in the Holy Qur'an, especially in recent times, we would have beat others to discovering these scientific truths.

Now let us read the second part of this Verse: "*And even so you will be brought forth (from the graves)*".

Now the Verse is addressing the man and saying to him: Your being brought back from the dead and being revived once more is no more than a reactivation of your genetic code that is found in the soil, and that will be done by Divine command.

Just as water reactivates vitality to genetic codes that are found in the soil, and life is suddenly born in the soil, as soon as the Divine command is issued to restore life, these codes will begin to move







## Linguistic Interpretation:

Ibn Mundhir said in *Lisan Al-Arab*: the word *Adna* (translated in the Verse as "in the nearest land") means "to come near or close to something", nearness and proximity: to draw near. There is a narration in another form of recital from Al-Kalbi - *fee adani al-ard* mentioned by Al-Alloosi and Abu Su'ood in their books of *Tafseer*. And *Adna* means "lowest".

The Understanding of the Scholars of *Tafseer*

The scholars of *Tafseer* such as Ar-Raazi, Al-Qurtubi, At-Tabari and Ibn Katheer referred to the first meaning of the word *Adna* i.e. nearest. They mentioned that *Adna Al-Ard* means the closest one. It has been narrated from Ibn 'Abbas and As-Suda that the war between Rome and Persia occurred between Jordan and Palestine. Imam Ali Ibn Hajar Al-Asqalani defined the place of the battle as being between Adhri'at in Jordan and Basra in Sham (Syria).

## Scientific Facts

Geographical maps show the lowest points on the Earth's surface and the lowest point on the Earth's surface is the one adjacent to the Dead Sea in Palestine. It is three hundred and ninety-two meters below sea level. This has been confirmed by satellite images and measurements.

## Scientific Interpretation

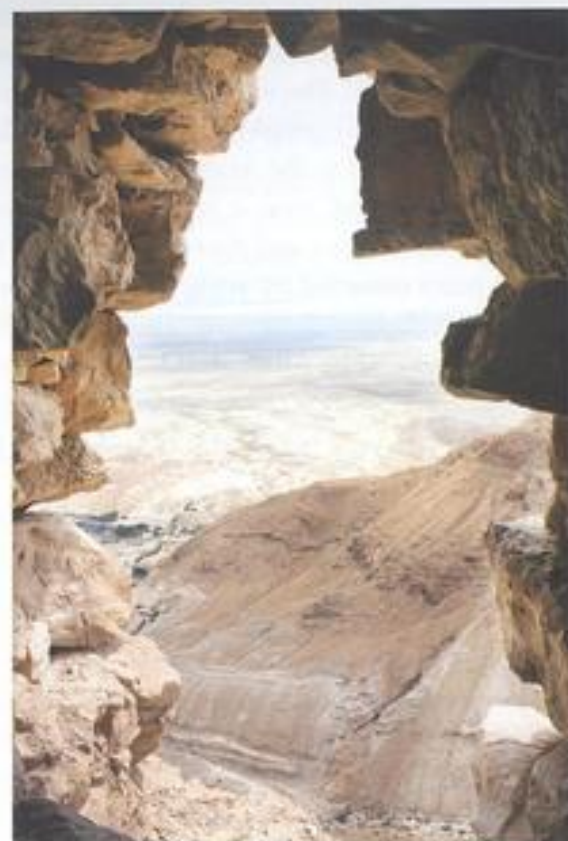
Allah, Most High, says in His Noble Book:

﴿الَّذِينَ ظَلَمُوا رَبَّهُمْ﴾ ① فِي أَقْصَى الْأَرْضِ وَهُمْ مِنْ بَعْدِ عَلَيْهِمْ صَبَإُوتُ ②  
 فِي يَضَعُ مِيزَانُ اللَّهِ الْأَمْرَ مِنْ قَبْلِ وَيَوْمَ يُنْفَخُ الْعُورُوتُ ③  
 يَنْصُرُ اللَّهُ يَنْصُرُ مَنْ يَشَاءُ وَهُوَ الْعَزِيزُ الرَّحِيمُ ④

"Alif-Lam-Mim. The Romans have been defeated. In the nearest land (Syria, Iraq, Jordan and Palestine), and they, after their defeat, will be victorious. Within three to nine years. The decision of the matter, before and after (these events) is only with Allah, (before the defeat of the Romans by the Persians, and after the defeat of the Persians by the Romans). And on that Day, the believers (i.e. Muslims) will

rejoice (at the victory given by Allah to the Romans against the Persians) with the help of Allah. He helps whom He wills, and He is the Almighty, the Most Merciful." - (Soorah Ar-Room 30:1-5).

The cause of revelation of these Verses was the battle, which occurred between the Persian and Roman empires at a place between Athri'at and Basra, close to the Dead sea. The Persians were victorious therein. This was in the Year 619 C.E.



View on coast of the Dead Sea through a breach in a wall of stability Masada, Israel

Muslims were grieved at the defeat of the Romans because they (Romans) were the people who practiced a heavenly revealed religion and to whom a book was revealed, while the Persians were Magians, the worshippers of fire. Thus, Allah promised the Muslims that the Persians would be defeated in a second battle within three to nine years and that the victory of the Romans would coincide with the victory of the Muslims over the polytheists (of Makkah).

What the Noble Qur'an promised came to pass after seven years i.e. within the timeframe which the Qur'an had stated earlier. The second battle between Persia and Rome occurred in 626 C.E. and the Romans were victorious therein and this coincided with the victory of the Muslims over the polytheists in the Battle of Badr.



Anyone who contemplates these Verses of the Qur'an observes that it describes the battlefield of the first battle between Persia and Rome as being *Adna Al-Ard*. The word *Adna* to Arabs has two meanings: closest or lowest. From the perspective of being the closest, then it is the closet point with respect to the Arabian Peninsula, and from the perspective of being the lowest, then it is the lowest point on the Earth's surface being three hundred and ninety-two meters below sea level. It is the lowest point recorded by artificial satellites on dry land as mentioned in the *Encyclopedia Britannica*. This is in affirmation of the Verse of Qur'an. Glorified be Allah, the One Who says:

﴿وَقُلِ الْحَمْدُ لِلَّهِ سَيَرُّكُمْ وَأَبْنَيْكُمْ فَتَعْرِفُونَهَا﴾

"And say Praise is to Allah, you shall soon be shown His Ayat (Signs, Verses, etc.) and you shall know them..."

### Scientific Reference

The *Encyclopedia Britannica* states about the Dead Sea: A stranded saltwater body between Israel and Jordan. It is the lowest water body on Earth. Its surface altitude reaches one thousand three hundred and twelve feet (1,312ft), roughly four hundred meters (400m) below sea level. Its northern part is divided between Jordan and Israel. However, after the Arab-Israeli war in the Year 1967, the Israel occupied the entire western bank of the sea. The Dead Sea is located between the hills of Judaea to the west and the Trans-Jordanian plateaus to the east.

### Miraculous Point

The miraculous point in the statement of Allah, Most High: "*Adna Al-Ard*" becomes clear since the word *Adna* in Arabic language means both nearest and lowest. The lowest point is the Dead Sea in Palestine, exactly as recorded by satellites after fourteen centuries.

Shaikh Az-Zindani says in this regard: This Verse was the cause of some polytheists accepting Islam. The polytheists rejoiced (because they were also idol worshippers) at the victory of their fellow idolaters over the people of the Book (in the battle between Persia and Rome) while the Christians and the Muslims were grieved. Thus Allah

revealed these Verses to console the believers and to dampen the joy of the unbelievers, Allah, Most High,- says:

﴿الْعَمَّ ۝ ثَلَاثِينَ ۝ فِي الْأَرْضِ وَهُمْ مِنْ بَعْدِ غَلَبِهِمْ سَبْعِلَاثُونَ ۝ فِي يَوْمٍ سَبْعِينَ ۝﴾

**"Alif-Lam-Mim.** The Romans have been defeated. In the nearest land (Syria, Iraq, Jordan and Palestine), and they, after their defeat, will be victorious. Within three to nine years..." (Soorah Ar-Room 30:1-4).

That is, in less than ten years. After this information, Allah says,

﴿فِي يَضَعُ بِذُنُوبِكُمُ الْآصْرَ مِنْ قَبْلُ وَمِنْ بَعْدُ وَيَوْمَئِذٍ يَفْسَحُ الْمَوْتُونَ﴾ ﴿١٠﴾

نَضْرُ اللَّهُ نَضْرًا مِّنْ بَيْتَانِهِ وَهُوَ الْعَزِيزُ الرَّحِيمُ ﴿١٠﴾ وَعَدَ اللَّهُ لَا يُخْلِفُ اللَّهُ وَعْدَهُ وَلَكِنْ

أَكْثَرُ النَّاسِ لَا يَعْلَمُونَ ﴿٦﴾ يَعْلَمُونَ ظَاهِرًا مِّنَ الْحَيَاةِ الدُّنْيَا وَهُمْ عَنِ الْآخِرَةِ هُمْ غَافِلُونَ ﴿٧﴾

"The decision of the matter, before and after (these events) is only with Allah, (before the defeat of the Romans by the Persians, and after the defeat of the Persians by the Romans). And on that Day, the Believers (i.e. Muslims) will rejoice (at the victory given by Allah to the Romans against the Persians) with the Help of Allah. He helps whom He wills and He is the Almighty, the Most Merciful. It is a Promise of Allah and Allah fails not in His Promise but most of men know not. They know only the outside appearance of this world (i.e. the matters of their livelihood, like irrigating or sowing or reaping, etc.) and they are heedless of the hereafter." (Soorah Ar-Rum 30:4-7).

When these Verses were revealed:

﴿وَيَوْمَئِذٍ يَقَرُّحُ الْمُؤْمِنُونَ﴾ ﴿١﴾ وَيَنْصُرِي اللَّهُ﴾

"And on that Day, the Believers (i.e. Muslims) will rejoice (at the victory given by Allah to the Romans against the Persians), with the help of Allah..."

They were followed by:

﴿وَعَدَ اللَّهُ لَا يَخْلِفُ اللَّهُ وَعْدَهُ﴾

“(it is) a Promise of Allah (i.e. Allah will give victory to the Romans against the Persians), and Allah fails not in His Promise....”



Meaning the Romans that were defeated shall become victorious within a period of less than ten years:

﴿وَيَوْمَئِذٍ يَفْرَحُ الْمُؤْمِنُونَ﴾

"And on that Day, the Believers (i.e. Muslims) will rejoice."

The second aspect of this victory is that the believers will rejoice therein. After this:

﴿وَعَدَ اللَّهُ لَا يَخْلِفُ اللَّهُ وَعْدَهُ﴾

"It is a Promise of Allah and Allah fails not in His Promise."

i.e. about what will be:

﴿وَلَكِنَّ أَكْثَرَ النَّاسِ لَا يَعْلَمُونَ﴾

"but most of men know not."

These statements aroused feelings of extreme pride, arrogance and dominance in the polytheists. Thus, one of the unbelievers having heard the Verses came to Abu Bakr, may Allah be pleased with him, and said: "Do you see what Muhammad says?", Abu Bakr asked: "What did he say?" He said: "He says the Romans shall defeat the Persians!" Abu Bakr said: "He speaks the truth." Not more than seven years had passed before the promise of Allah, the Glorious and Most High, came to pass with the victory of the Romans over the Persians and the Believers rejoiced. This was in the year of the Treaty of Hudaibiyyah.

﴿الْعَلَمُ ۝ عَلِيَّتِ الرُّومُ ۝ فِي أَقْدَمِ الْأَرْضِ ۝ وَهُمْ مِنْ بَعْدِ عِلْيَتِهِمْ سَيَقْلِبُونَ ۝ فِي يَضَعُ سِينَتَهُ﴾

"Alif-Lam-Mim. The Romans have been defeated. In the nearest land (Syria, Iraq, Jordan and Palestine), and they, after their defeat, will be victorious. Within three to nine years..." (Soorah Ar-Room 30:1-4).

This was a miracle for the earliest generation (of Muslims), a hidden matter which they came to witness after seven years of the revelation by the Qur'an. As a result, some of the unbelievers accepted Islam and said: "Muhammad is an intelligent person, not one deranged; he



View of Dead Sea

pledged all of his religion, his future and the entirety of Islam on the victory of a vanquished state. He fixed a short period of time, which would be within his own lifetime for it. If ten years had passed and Rome had not defeated Persia, then Islam, the Qur'an and Muhammad would have faded away (with no one believing them). However, Muhammad made the pledge with all that he had, he fixed the time and was categorical about it. Then after just seven years had gone, what he said had come to pass. It is not possible from this (prophecy) to have been from a man. This must be the work of the one who governs man." And so they (the unbelievers) accepted Islam!

Az-Zindani said: I met with one of the leading geologists in America, Professor Palmer. He came to me and brought with him a globe of the Earth showing details of the elevations and depressions upon the Earth; the depths of the seas. And the altitudes and depths were clearly shown on contours in meters. When he took his seat I said:

We have a statement in the Qur'an that says that the place near Bait Al-Maqdis where the battle took place is the lowest point in the world. The statement is "fee Adna Al-Ard" (in the nearest or lowest land). The word Adna is derived, it could imply nearest for example if I said; Adna



*ilayya min al-akh* – i.e. nearest to me than the brother. So, *Adna* comes in two meanings; to mean nearest or lowest...” so I further said; Allah said “*fee Adna Al-Ard*”. The earliest exegetes took to the first meaning (of *Adna*) i.e. nearest and said the nearest point to the land of Arabs is the Jordan Valley by the Dead Sea. It is the nearest land to the Arabian Peninsula. So, they explained the nearest, but the Verse also includes the second meaning i.e. lowest.

That point is the lowest and I know it is the lowest, but I wanted him to say so himself... and he said so. However, when he realized it is from the Qur'an, he said: “It is not the lowest point on the Earth. There are lowlands in Holland which are below sea level and certain valleys...” Then he mentioned other lowlands in the world. I said to him: “I am restating and emphasizing what I have said.” He disagreed but I continued to repeat my point. (I said): “This globe of the Earth, contains the heights and depths, could you spin it around quickly.” When he spun it to the position of Bait Al-Maqdis and its environs he found a long arrow pointing out of the location with bold inscriptions reading “the lowest point in the world!” Once he saw this he said: “True! True! The matter is as you said. It is the lowest point on Earth.” This is the Qur'an, revealed with knowledge of the One Who encompasses all things. Glorious is He, Most High.

(Wa Gadda Asr ul -Eemaan – By Shaykh Abdul Mujeed Az – Zindanee)



## The Heaven and the Earth

Our Lord, Glorious is He, says:

﴿هُوَ الَّذِي خَلَقَ لَكُمْ مَّا فِي الْأَرْضِ جَمِيعًا ثُمَّ أَسْتَوَىٰ إِلَى السَّمَاءِ  
فَسَوَّاهُنَّ سَبْعَ سَمَوَاتٍ وَهُوَ بِكُلِّ شَيْءٍ عَلِيمٌ﴾

“He it is Who created for you all that is on Earth. Then He Istawa (rose over) toward the heaven and made them seven heavens and He is the Knower of Everything.” (Soorah Al-Baqarah 2:29).



Another Verse reads:

﴿ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ﴾

"Then He Istawa (rose over) toward the heavens when it was smoke..." (Soorah Fussilat 41:11).

The Earth preceded the development of heaven:

"Then He Istawa (rose over) toward the heavens when it was smoke," i.e. there are levels in the heavens which were smoke. This is the statement of Allah, and this is what science corroborates. If you need evidence, then go to any observatory and look at the heavens, you will find smoke in the heavens, a remnant of the smoke from which stars and planets have formed till date. Were you to ask a Bedouin or a civilized person: "Does not smoke emanate from fire or fire from smoke?"

he would say:

"Smoke definitely emanates from fire".

I ask:

"Does man imagine that stars and planets were once smoke? and this fire was once smoke? this won't occur to anyone but it is exactly what the Qur'an affirms. Allah, Most High, says:

﴿ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَ لِلْأَرْضِ انبِئَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ﴾

"Then He Istawa (rose over) toward the heavens when it was smoke, and said to it and to the Earth: 'come both of you willingly or unwillingly.' They both said: 'We come, willingly.'" (Soorah Fussilat 41:11).

Scientists study the Earth and say: "The mountains were formed by a process of expulsion from within the Earth in the form of volcanoes."

﴿وَلَمَّا الْاَرْضُ مُدَّتْ ۖ وَالْقَتَ مَا فِيهَا وَخَلَّتْ﴾

"And when the Earth is stretched forth, and has cast out all that was in it and becomes empty." (Soorah Inshaqaaq 84:3-4).



It casts out all that was in it -- this is in the end -- but at its beginning mountains are mentioned as pegs mentioned in the Qur'an:

﴿وَالْجِبَالُ أَوْسَاهَا﴾

"And the mountains He has fixed firmly." (Soorah An-Naziyat 79:32)

The mountains were cast upon the Earth, thereafter water came forth from within the Earth.

All seas and rivers were once inside the interior of the Earth and came out from the interior to the surface. Listen to the statement of the Protector, Glorious is He and Most High:

﴿وَالْاَرْضُ بَعْدَ ذَلِكَ دَحَاهَا﴾

"And after that He spread the Earth." (Soorah An-Naziyat 79:30).

About the beginning of creation, He says:

﴿يَوْمَ نَبُذُ سَمَكًا لَّيْمًا ۖ وَنَطْلُسُ فَلَّهَا ۖ وَنُخْرِجُ عَنْهَا ۙ وَالْاَرْضُ ۙ بَعْدَ ذَلِكَ دَحَاهَا ۙ اَخْرَجَ مِنْهَا مَآءَهَا ۙ وَمَرْعَاهَا ۙ وَالْجِبَالُ ۙ اَوْسَاهَا﴾



"Are you more difficult to create, or are the heavens that He constructed? He raised its height, and He has equally ordered it, its night He covers with darkness, and its forenoon He brings out (with light). And after that He spread the Earth; And brought forth therefrom its water and its pasture, and the mountains He has fixed firmly." (Soorah An-Naziyat 79:27-32).

Does not their statement read the same as that which Allah has said earlier:

﴿أَخْرَجَ بَيْنَ يَدَيْهَا مَاءً وَمَرْعًا ۖ وَالْجِبَالُ أَرْسَاهَا ۚ سَعًا لَكُمْ وَلِتُنَظِرُوا﴾

"And brought forth therefrom its water and its pasture; and the mountains He has fixed firmly; (To be) a provision and benefit for you and your cattle." (Soorah An-Naziyat 79:31-33).

But do you know what succeeds this Verse?

﴿فَإِذَا جَاءَتِ الطَّائِفَةُ الْكَثِيرَىٰ ۖ يَوْمَ يَتَذَكَّرُ الْإِنْسَانُ مَا سَعَىٰ ۚ وَرُزِقَ الْجَنَّةُ لِمَنْ رَىٰ﴾

"But when there comes the greatest catastrophe (i.e. the Day of Recompense, etc.) the day when man shall remember what he strove for. And Hellfire shall be made apparent in full view for (every) one who sees." (Soorah An-Naziyat 79:34-36).

Contemplate this Verse, which has been within us (Muslims) for fourteen hundred years (1400 years) while they (scientists) are now saying: We have studied the Earth and its history and found that it has been created in this manner (just as the Qur'an describes it). The first part discusses about the beginning of the creation and second part about the end of it. As we have witnessed the beginning to be true so shall we witness its end to be true.

﴿فَإِذَا جَاءَتِ الطَّائِفَةُ الْكَثِيرَىٰ ۖ يَوْمَ يَتَذَكَّرُ الْإِنْسَانُ مَا سَعَىٰ ۚ وَرُزِقَ الْجَنَّةُ لِمَنْ رَىٰ﴾

"But when there comes the greatest catastrophe (i.e. the Day of Recompense, etc.) the day when man shall remember what he strove for. And Hell-fire shall be made apparent in full view for (every) one

who sees." (Soorah An-Naziyat 79:34-36).

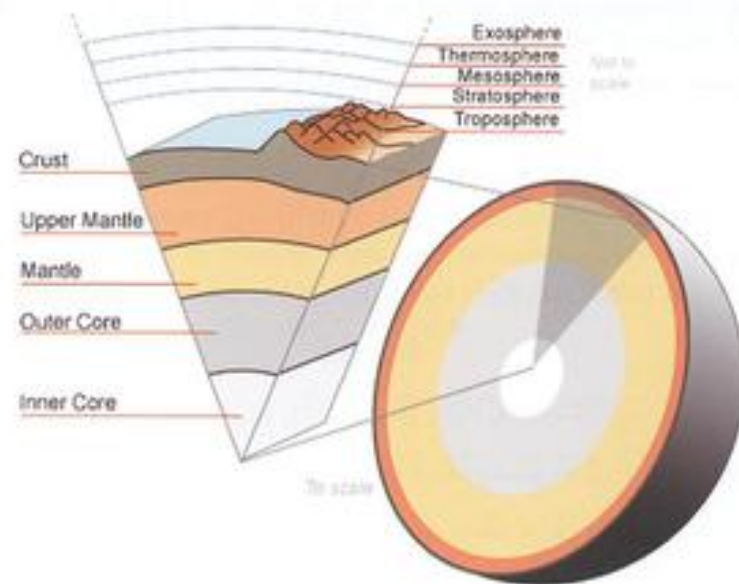
﴿يَوْمَ يَتَذَكَّرُ الْإِنْسَانُ مَا سَعَىٰ ۚ وَرُزِقَ الْجَنَّةُ لِمَنْ رَىٰ﴾

﴿وَأَمَّا مَنْ خَافَ مَقَامَ رَبِّهِ ۖ﴾

﴿وَنَهَى النَّفْسَ عَنِ الْهَوَىٰ ۖ فَإِنَّ الْجَنَّةَ هِيَ الْمَأْوَىٰ﴾

"The day when man shall remember what he strove for, Hellfire shall be made apparent in full view for (every) one who sees. Then, for him who Tagha (transgressed all bounds, in disbelief, oppression and evil deeds of disobedience to Allah). And preferred the life of this world (by following his evil desires and lust, verily, his abode will be Hellfire. But as for him who feared standing before his Lord, and restrained himself from impure evil desire, and lust; verily, paradise will be his abode." (Soorah An-Naziyat 79:35-41).

Choose that which you prefer. This is the statement of the Lord of all creations. Scientists studied the interior of the Earth and what did they find? They found its interior in a state of motion, from which currents of heat emanate. Imagine that the Earth is cut in two halves; we are upon the topmost layer -- the crust of the Earth -- and the remaining





layers consist of molten fluid material and a solid internal core made of seven layers.

The benefit of the crust is that it protects us from that which is beneath it. What is beneath us is fire, a melting pot and gigantic rocks spurting out heat waves Earth, while above it is a layer that is very hot. Were we to be upon it we would die. However, Allah overlaid it with a layer whose thickness is seventy kilometers (70km). This crust, which you observe, is only seventy kilometers (70km) thick: to protect us from what is beneath us though it is only one layer.

﴿يَا أَيُّهَا النَّاسُ اعْبُدُوا رَبَّكُمُ الَّذِي خَلَقَكُمْ وَالَّذِينَ مِنْ قَبْلِكُمْ  
لَعَلَّكُمْ تَتَّقُونَ ﴿٥١﴾ الَّذِي جَعَلَ لَكُمُ الْأَرْضَ رِزْقًا﴾

"O mankind worship your Lord (Allah), Who created you and those who were before you so that you may become *Al-Muttaqun* (pious and righteous persons who fear Allah much; abstain from all kinds of sins and evils which He has forbidden and love Allah much; perform all kinds of good deeds which He has ordained) who made the Earth a resting place for you." (Soorah Al-Baqarah 2:21-22).

This layer beneath us was created so that we are not harmed by the Earth's interior. Scientists did not come to know this except in recent decades.

(Al - Im Tareeq Al - Eeman - By Shaykh Abdul Majeed Az- Zindanee)



## The Sun and the Earth

From remembrance (of Allah) is the contemplation of Allah's Signs in the horizon and in oneself. This contemplation is with the aim of knowing Allah, Glorious is He, and Most High, such that we estimate Him justly. Allah says:

﴿إِنَّ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ وَفِي تَوَارِثِ السَّجَادَاتِ لَأَيَاتٍ لِلَّذِينَ يَذْكُرُونَ اللَّهَ قِيَمًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَطْلًا تُسَبِّحُكَ قَوْنًا عَذَابَ النَّارِ﴾



"Verily! In the creation of the heavens and the Earth, and in the alternations of night and day, there are indeed signs for men of understanding. Those who remember Allah (always, and in prayers) standing, sitting, and lying down on their sides and think deeply about the creation of the heavens and the Earth, (saying): 'Our Lord! You have not created (all) this without purpose, Glory to You! Exalted be You above all that they associate with You as partners. Give us salvation from the torment of the fire.'" (Aal 'Imran 3:190-191).

Of these Signs is the gravitational attraction which Allah has put between stars and planets. Allah, Most High, says:

﴿اللَّهُ الَّذِي رَفَعَ السَّمَوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا﴾

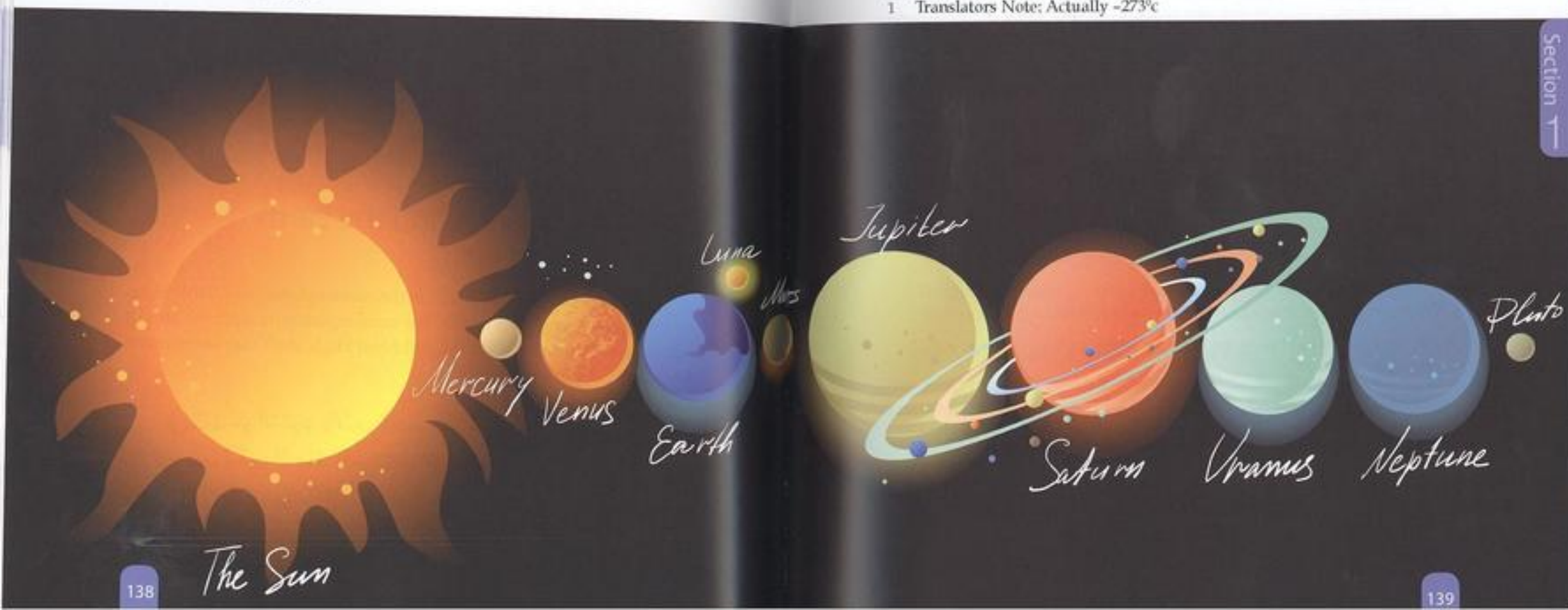
"Allah it is Who has raised the heavens without pillars that you see..." (Soorah Ar-Ra'd 13:2).

Among the numerous implications of the phrase, "that you see" is that Allah, Almighty and Sublime, raised the heavens with pillars which we do not see. That pillar is the force of gravity, which keeps the entire universe in order -- from the atom to galaxies.

The sun, for example, attracts the Earth toward itself with tremendous force making the Earth travel in a closed path around the sun. If the gravitational force were to vanish, the Earth would leave its path around the sun and would be flung into the abyss of space in pitch darkness and freezing cold. By leaving its path, all life upon it would cease as its temperature would decrease to minus two hundred and seventy degrees (-270°C). This is the temperature at absolute zero<sup>1</sup>, the point at which motion ceases to occur in atoms.

Allah, Most High, says:

<sup>1</sup> Translators Note: Actually -273°C





﴿إِنَّ اللَّهَ يُمْسِكُ السَّمَوَاتِ وَالْأَرْضَ أَنْ تَزُولَا﴾

"Verily! Allah grasps the heavens and the Earth lest they move away from their places..." (Soorah Fatir 35:41).

So that we may appreciate the strength of the gravitational pull of the sun on the Earth, let us assume that this force vanishes for one reason or the other, and in order for the Earth to remain linked with the sun, running on in its path we would need to tie it to the sun with visible pillars of steel. Steel is one of the strongest metals and one of the best at withstanding stress. A wire (cable) of steel with a diameter of just one millimeter can support the equivalent of a hundred kilograms. Thus we would require ten trillion steel ropes, each rope being one hundred and fifty-six million kilometers (156,000,000 km)-long and each of five meters (5m) in diameter. Each of these steel ropes will support more than two million tons (2,000,000 tons) of weight. Thus, what exactly is the magnitude of the sun's gravitational pull on the Earth? It is a million tons multiplied by ten trillion. When we now plant these ropes on the Earth's surface facing the sun, we would be surprised to find ourselves in a mesh of steel ropes in such a way that the space between adjacent ropes is less than the diameter of a third rope. This mesh (of ropes) would screen the sun's rays from us completely and prevent us from any motion or activity. All this tremendous force is just for the Earth to move in its path around the sun three millimeters every second! Allah, Most High, rightly says:

﴿اللَّهُ الَّذِي رَفَعَ السَّمَوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا﴾

"Allah it is Who has raised the heavens without pillars that you see..." (Soorah Ar-Ra'd 13:2).

He also says:

﴿إِنَّ اللَّهَ يُمْسِكُ السَّمَوَاتِ وَالْأَرْضَ أَنْ تَزُولَا﴾

"Verily! Allah grasps the heavens and the Earth lest they move away from their places..." (Soorah Fatir 35:41).

This is from the Signs in the horizon. What of the Signs in the self? He, Most High, says:

﴿وَفِي أَنْفُسِكُمْ أَفَلَا تُبْهَرُونَ﴾

"And also in yourselves..." (Soorah Adh-Dhaariyat 51:21).

If a man is relaxing in a garden and he suddenly observes something dangerous (that could cause fatal harm) coming toward him, what effect does this have on his body? The image of this threat is immediately cast on the retina of the eye. This information is transmitted to the brain. The brain gauges the gravity of the threat and commands the pituitary gland, which contains the hormone adrenaline to respond to this threat. This hormone prepares the heart to beat faster (a frightened person's heart beats faster) and enables the lungs to breathe rapidly in consonance to the faster heart beat (a frightened person's lungs work faster and, thus, he gasps). The hormone has a third effect on the blood vessels, constricting them and diverting blood to the muscles (so the frightened person reddens). It has a fourth effect on the liver, increasing the amount of sugar injected into the blood. Sugar, of course, is the fuel for the muscles. The hormone has a fifth effect on the liver to increase the blood clotting hormone in order to prevent hemorrhage. All these actions occur within a few seconds!

﴿هَذَا خَلْقُ اللَّهِ فَأَرُونِي مَاذَا خَلَقَ الَّذِينَ مِنْ دُونِهِ﴾

"This is the creation of Allah. So show me that which those (whom you worship), besides Him have created..." (Soorah Luqman 31:11).

Prophet Muhammad, peace and blessings be upon him, said in a narration reported by Al-Bukhari and Muslim: "The similitude of the one who remembers his Lord, and the one who does not remember his Lord, is the similitude of the living and the dead".

(Nizoroot fi - Islam By Naabliisee)





## The Earth's Shrinkage

Allah, Most High, says:

﴿أَوَلَمْ يَرَوْا أَنَّا نَأْتِي الْأَرْضَ نَنْقُصُهَا مِنْ أَطْرَافِهَا وَاللَّهُ يَكُونُ لَا مَعْرَبَ لِحُكْمِهِ. وَهُوَ سَرِيعُ الْحِسَابِ﴾

"See they not that we gradually reduce the land. And Allah judges, there is none to put back His Judgment and He is swift at reckoning." (Soorah Ar-Ra'd 13:41).

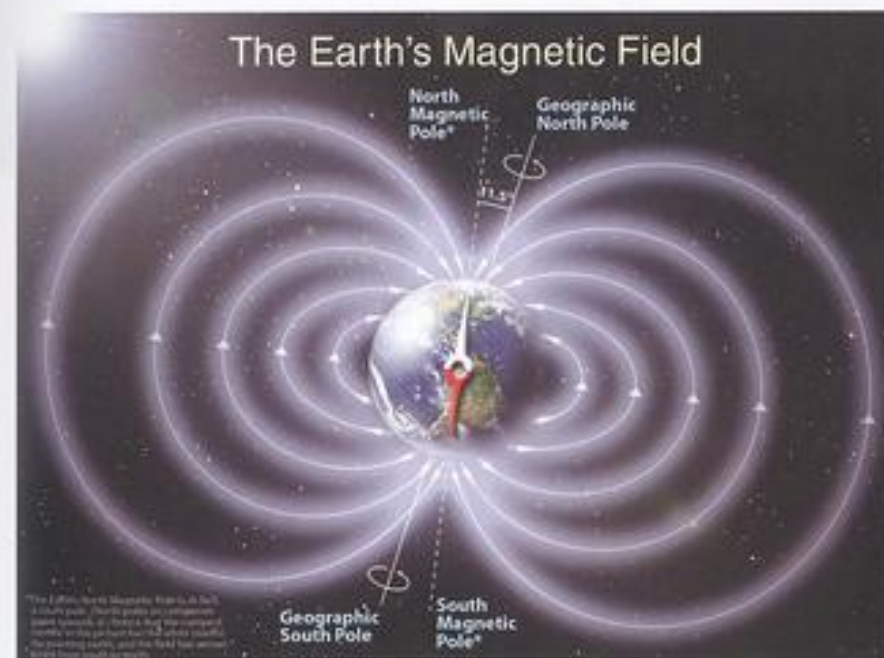
The meaning of reduction of the earth from its borders

The Earth's surface is not flat; there are high peaks, low levels and level grounds. From another perspective, the Earth resembles a ball having two poles and an equator. The earlier scholars of *Tafseer* said that

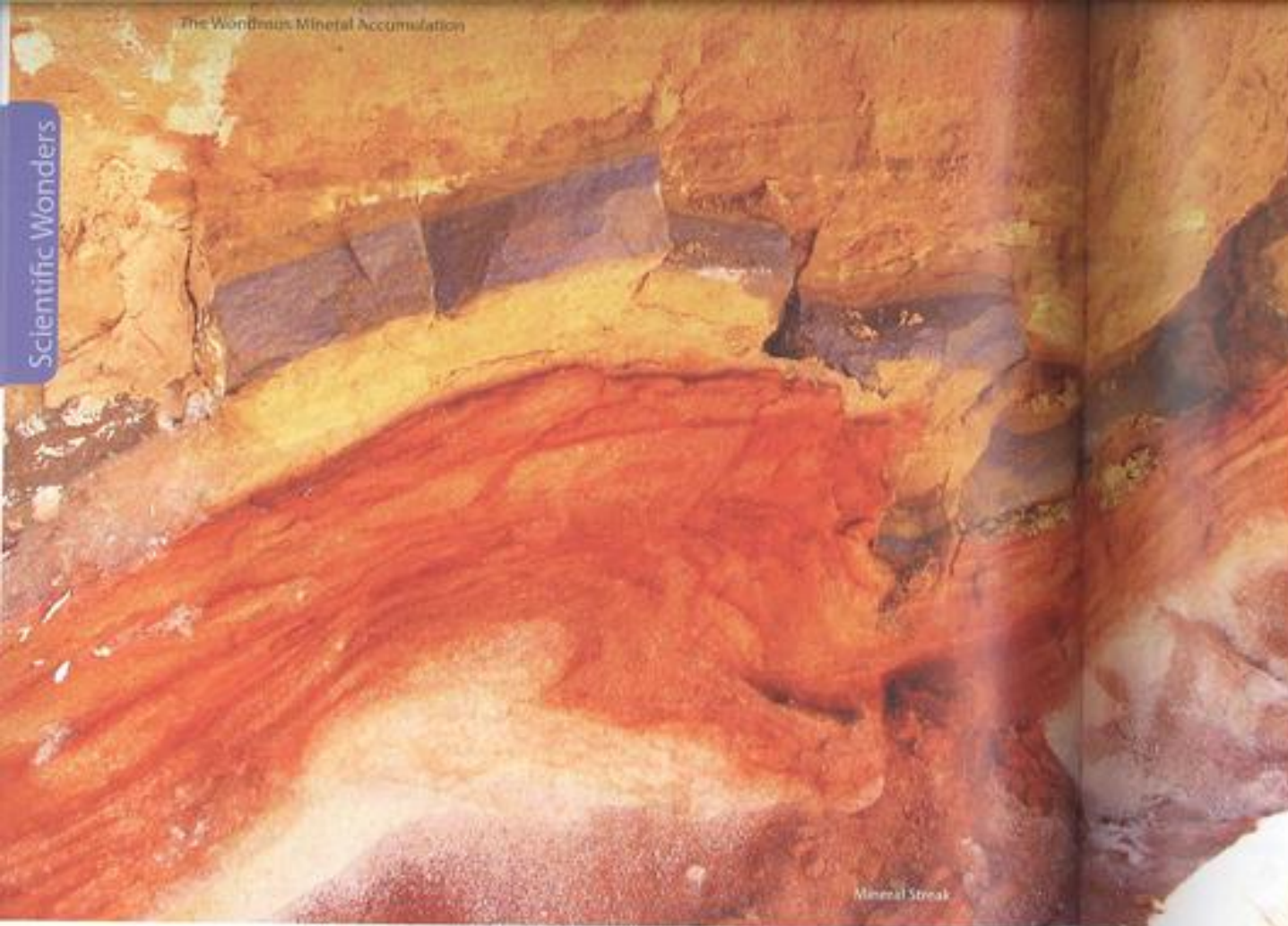
the reduction of the Earth from its borders has one of two meanings. It either means the death of scholars as this leads to serious corruption of life or it means the removal of the lands of the disbelievers through conquest by the Islamic state. Earth.

However, modern science marks a brilliant fact that the Earth is in constant shrinkage. It re-absorbs itself from all its borders and poles. The cause of the shrinkage is the expulsion of tremendous amounts of material and energy in the form of gases, vapor, fluids and solid matter. These are expelled via the vents of volcanoes in millions of tons continuously, leading to the shrinkage of the Earth. Scientists assert that the original Earth was at least two hundred times its present size. And Allah, Most High, knows best.

(*Min Aayat il-'Ijaz fi-Qur'an* by Dr. Zaghloul An-Najjar. See also *Al-Hattu Al-Bahri*: For the scientists say: the Earth's tides (rising and ebbing) are one of the causes of reduction in land surface. You will find that in the study we have referred to previously).







Mineral Streak

## The Wondrous Mineral Accumulation

Allah, the Exalted, says:

﴿سُبْحَنَ الَّذِي خَلَقَ الْأَزْوَاجَ كُلَّهَا وَمَا تُنْبِتُ الْأَرْضُ وَمِنْ أَنْفُسِهِمْ وَمِمَّا لَا يَعْلَمُونَ﴾

"Glory be to Him, Who has created all the pairs of that which the Earth produces as well as of their own (human) kind (male and female) and of that which they know not..." (Soorah Ya Seen 36:36).

The Messenger of Allah, peace and blessings be upon him, said:

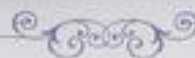
"Allah created Adam from a handful which He took from the whole Earth. Thus the progeny of Adam come from all of the Earth: amongst them are red (skinned), white and black, and all shades in between. Amongst them are the gentle, the fierce, the evil and the good." (Saheeh) – Reported by Abu Dawood, Al-Tirmidhi and Ahmad)

Studies have shown that the human body is made up of the constituents of the Earth which are: water, sugars (carbohydrates), proteins, fat, vitamins, hormones, chlorine, sulfur, phosphorus, magnesium, calcium, potassium, sodium, iron, lead, iodine and other elements. These elements combine with each other to form bones, muscles, lens of the eyes, the hair of the head, the teeth, blood, glands, saliva and other things in your body. These elements (or materials), combine with each other in fixed and delicate proportions in the human body. These proportions are known only to the Lord of the entirety of creation. Experimental analyses have shown that if all the material that goes into making up the human body is gathered and combined, we would have the following materials: a box of chalk, a box of matches, some small nails, a handful of salt and some other

substances which are of (little or) no value. All of these not worth more than ten pound sterling. Is it then reasonable to say that man is not worth more than this amount? (If so) then your clothing or your wrist watch would be worth more than your entire self, would it not? What







is the real value of man? The value of the substances (several as they are) which make up man is near worthless. Therefore the value of a thing must be estimated only after its formation and understanding of its benefit. Comparing man with machines (or instruments) is therefore an extreme folly. An object should never be compared except with its similitude. Otherwise, sheep and camels would be deemed more important (more valuable) than man. Therefore we state that: Man has a lofty position which is beyond our material estimation (or measurement). The evidence for this is the statement of Allah, Glorified and Exalted is He:



Azurite, Uvan Minerals

﴿وَلَقَدْ كَرَّمْنَا بَنِي آدَمَ وَحَمَلْنَاهُمْ فِي الْوَرْدِ وَالْحِمْرِ وَرَفَعْنَاهُمْ مِّنَ الْأَرْضِ وَنَفَسْنَا فِيهِمْ مِنَّا رُوحًا فَقَالُوا لِمَ خَلَقْنَاكُمْ مِّنْ طِينٍ﴾

"And indeed We have honored the children of Adam, and We have carried them on land and sea, and have provided them with At-Tayyibat (lawful good things), and have preferred them above many of those whom We have created with a marked preference." (Soorah Al-Isra 17:70).

He, Most High, also says in Soorah Al-A'raf:

﴿وَلَقَدْ خَلَقْنَاكُمْ ثُمَّ صَوَّرْنَكُمْ ثُمَّ قُلْنَا لِلْمَلَائِكَةِ اسْجُدُوا لِآدَمَ فَسَجَدُوا إِلَّا إِبْلِيسَ لَمْ يَكُن مِّنَ السَّاجِدِينَ ﴿٣٦﴾ قَالَ مَا مَنَعَكَ آلَا تَسْجُدُ إِذْ أَمَرْتُكَ قَالَ أَنَا خَيْرٌ مِّنْهُ خَلَقْتَنِي مِن نَّارٍ وَخَلَقْتَهُ مِن طِينٍ﴾

"And surely, We created you (your father Adam) and then gave you shape (the noble shape of human being), then We told the angels, 'prostrate before Adam,' and they prostrated, except Iblees (Satan); he refused to be of those who prostrate. (Allah) said: 'What prevented you (O Iblees) that you did not prostrate, when I commanded you?' Iblees said: 'I am better than him (Adam), You created me from fire and him You created from clay.'" (Soorah Al-A'raf 7:11-12).

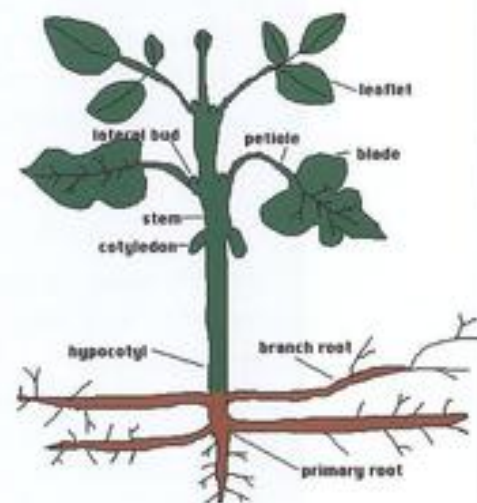


## Allah's Signs in the Plants

Allah, Most High, says in His Book:

﴿وَهُوَ الَّذِي أَنزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ نَبَاتَ كُلِّ شَيْءٍ فَأَخْرَجْنَا مِنْهُ خَضِرًا نُّخْرِجُ مِنْهُ حَبًا مُّتَرَاكِبًا وَمِنَ النَّخْلِ مِن طَلْعِهَا قِنْوَانٌ دَانِيَةٌ وَجَنَّاتٍ مِّنْ أَعْنَابٍ وَالزَّيْتُونَ وَالرُّمَّانَ مُشْتَبِهًا وَغَيْرَ مُتَشَبِهٍ انظُرُوا إِلَيْنِ نَوْمِهِ إِذَا أَثْمَرَ وَيَتَنَبَّهْ إِنَّ فِي ذَٰلِكُمْ لَآيَاتٍ لِّقَوْمٍ يُؤْمِنُونَ﴾

"It is He Who sent down water (rain) from the sky; and with it We bring forth vegetation of all kinds, and out of it We bring forth green stalks, from which We bring forth thick dustered grain. And out of the date-palm and its spathe come forth clusters of dates hanging low and





near, and gardens of grapes, olives and pomegranates, each similar (in kind) yet different (in variety and taste). Look at their fruits when they begin to bear, and the ripeness thereof. Verily! In these things there are signs for people who believe." (Soorah An'am 6:99).

1. Plants are a kingdom on their own, and scientists continue to make giant strides in unveiling its characteristics.



Scientists have classified plants according to their physical structures or reproductive characteristics or based upon their habitats;

2. Plants generally germinate from seeds when the conditions are right for germination. The most important of these conditions is life of its germ. The seed preserves the vitality of its germ for long periods of time, which in itself is evidence for the existence of Allah. It has been possible to germinate seeds of wheat found in the graves of pharaohs.

It is necessary to have a certain amount of water, and the right temperature (for seeds to germinate). Each seed germinates at a specific temperature. It is also necessary to have air (for germination), this is a necessity for any living organism which breathes, senses, grieves, rejoices. Experiments have been conducted on plants placed in spacecraft using measuring instruments that show that the plants

experience a nervous breakdown that results in disorderly growth, but upon returning to the Earth, the plants returned to normalcy and tranquility.

When a seed germinates and the germ emerges to form tiny roots, it begins to feed on the stored food in the seed until its root lengthens and penetrates into the Earth in order to feed therefrom. Its condition is like the fetus in man and animals: it feeds from its mother whilst in her womb, then it feeds from her milk, thereafter it becomes independent of her and depends upon itself for sustenance when its body is well-developed. Is there anyone besides Allah who has placed life in the seed? Is there anyone other than Allah who has given the roots the ability to penetrate the Earth and brought forth the stem (trunk) sprouting upon it leaves; such that it flowers and bears fruits? Undoubtedly, this is the work of a complex, sublime, intelligent, reasonable being whose aim is preservation of the different species and the continuation of life. So, Glorified is the Ever-Living (Allah), the Bestower of life.

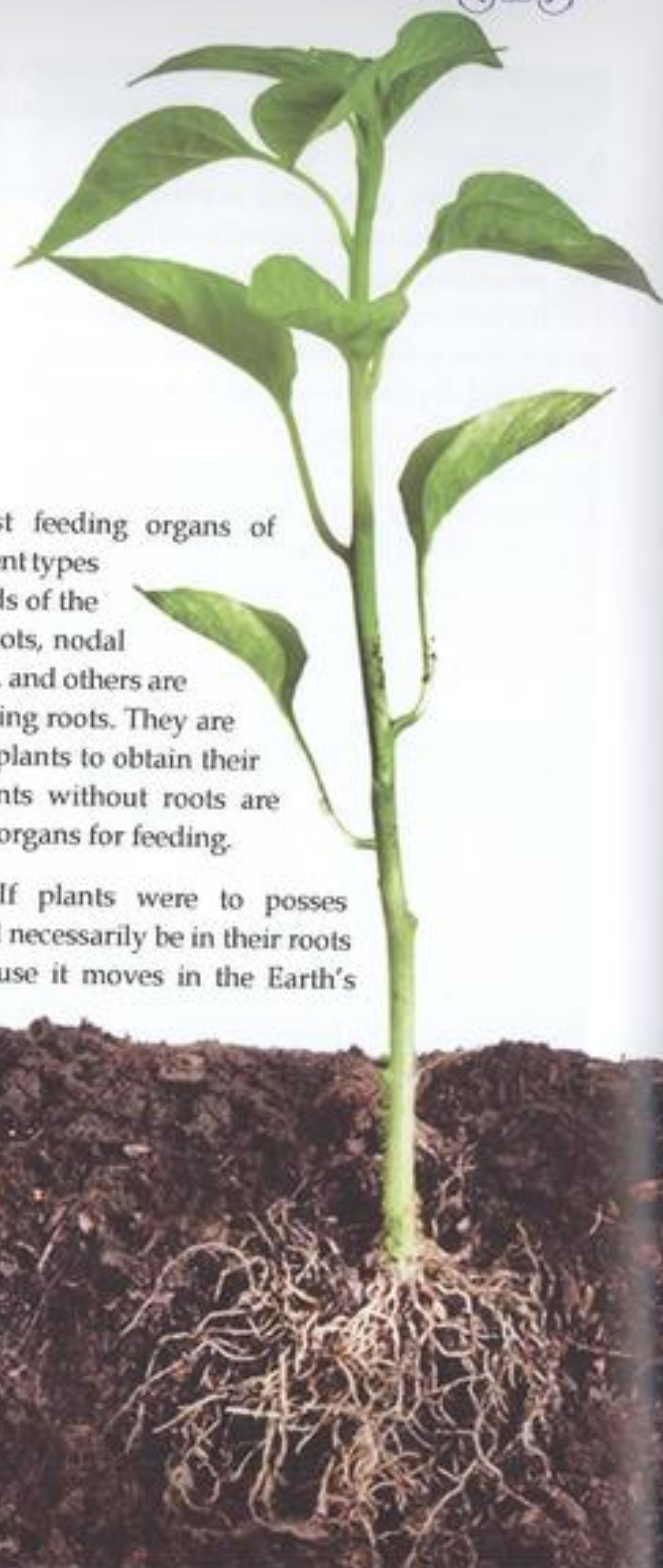




## The feeding organs of plants: The Root

Roots are the first feeding organs of plants and are of different types depending on the needs of the plant. There are tap roots, nodal roots, some are fibrous, and others are aerial roots and breathing roots. They are adapted to enable the plants to obtain their nutritional needs. Plants without roots are provided with suction organs for feeding.

♦ Darwin said: If plants were to possess intellects, then it would necessarily be in their roots within the earth; because it moves in the Earth's



interior encountering barriers and rocks; if it is unable to avoid them, it shoves them out of its path otherwise it excretes acids upon them to dissolve them.

♦ Roots have another general importance: they hold plants in place and keep them in an upright position, in such a way that they do not fall. Therefore, whenever we look at wide and big trees standing tall and lofty, we remember the roots which hold them.

♦ Roots grow with root hair roots that suck the dissolved nutrients of the earth via osmotic pressure. This fluid travels to the top of the plant via a complex process which is impossible to achieve by any chemical laboratory regardless of what apparatus and procedures it is equipped with. There must be light, water, carbon, oxygen, hydrogen, nitrogen, sulfur, potassium, magnesium and iron for plants to grow. All plants in the world feed on these elements, yet the earth produce sweet apples, bitter colocynths, soft tender smooth cotton, thorny Indian figs, wheat, barley, oranges, lemons, all from the same elements and water. A finite number of seeds and elements and innumerable different odors and tastes... Definitely, in this is a sign for people of understanding; He, Most High, says:

﴿وَجَعَلْنَا مِنْ أَشْجَبٍ وَزَرْعٍ وَنَجِيلٍ مِثْوَانٍ وَغَيْرِ مِثْوَانٍ يَنْفَعُ بِمَاءٍ وَجِدٍ وَتَقْضِلُ بَعْضَهَا عَلَى بَعْضٍ فِي الْأَرْضِ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِقَوْمٍ يَعْقِلُونَ ﴿١﴾﴾



"And gardens of vines, and green crops (fields, etc.), and date-palms, growing out two or three from a single stem root, or otherwise (one stem root for every palm), watered with the same water, yet some of them we make more excellent than others to eat. Verily, in these things, there are Ayat for the people who understand." (Soorah Ar-Ra'd 13:4).

### Transpiration

The power of the Creator becomes manifest if we consider the process of transpiration or the evaporation of water from the leaves of plants. This process aids the movement of sap from the earth through the roots. This is not an insignificant process -- up to five hundred liters (500 liters) of water emanates normally from a single tree. When the temperature rises and the atmosphere is dry and the speed of wind increases, then the rate of transpiration also increases. The thinness of the atmosphere in the temperate region and copious rainfall in the tropical rainforest regions, which have a large number of trees, is attributed to transpiration.



Transpiration occurs via an opening on leaves. One of the wondrous signs of the Creator in this process is that we observe variation in the number of openings on the leaves of plants according to their environments. The number of openings on desert plants is fewer than the number on forest plants leading to lower transpiration in the former compared to the latter.

The openings (stomata) themselves are from of the Signs of Allah, as each is made up of an opening between two guard cells. The guard cells protect the opening and control its opening and closing according to the needs of the plant. When the concentration of fluid in the guard cells increases, water is withdrawn from the two adjacent cells. The

guard cells get filled until they become rounded and thus the vent is opened and water evaporates therefrom. The roots suck water from the soil. However, when the sap of the guard cells is not concentrated, then its sides are pointed and its walls are in contact thereby with the hole. Look at this hidden internal process as to how it occurs with perfection and order and how its organs operate in a manner that speaks of power and perfection.



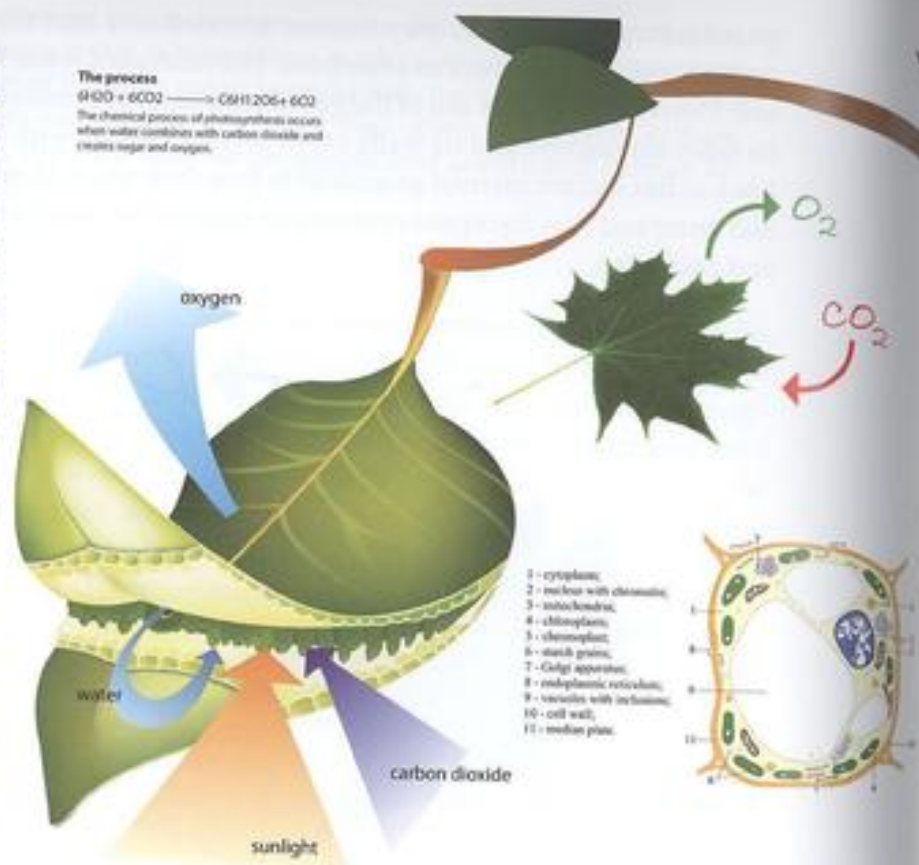
### Formation of food

Among the Signs of Allah is the production of food in plants; this process is known as carbon synthesis. Carbon dioxide enters plants through the stomata from the atmosphere, it meets with chlorophyll and water and forms carbon food substances due to the effect of temperature and light. The process of formation of these substances from carbon dioxide is an extremely complex chemical process which science has not been able to decipher as yet, except to say that the presence of chlorophyll, water and heat results in reactions leading to the formation of food material. This does not occur except in the presence of sunlight. Therefore it is also known as photosynthesis. Sciences admit that this process is the most difficult and amazing



# PHOTOSYNTHESIS

**The process**  
 $6H_2O + 6CO_2 \rightarrow C_6H_{12}O_6 + 6O_2$   
 The chemical process of photosynthesis occurs when water combines with carbon dioxide and creates sugar and oxygen.



process, which any form of life engages in and it is not possible for any (artificial) process or equipment to accomplish what a single green leaf of any plant does.

## Respiration in plants

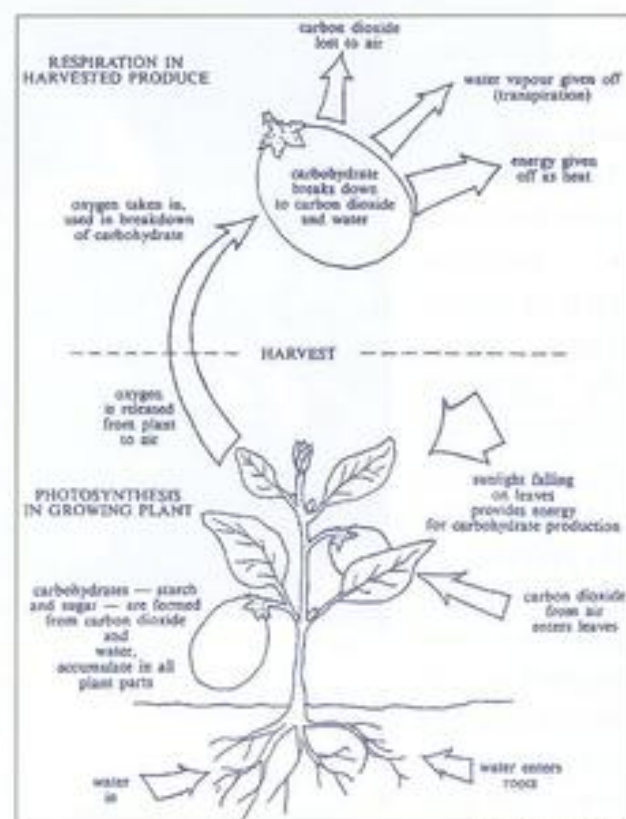
It was discovered in 1779 C.E. that plants respire, taking in oxygen and exhaling carbon dioxide just like humans and animals. Respiration in plants is accompanied by a rise in temperature and occurs both during daytime and at night. However, its effect is not apparent during the daytime relative to the process of carbon synthesis which occurs in plants at a higher rate than respiration. Thus, it exhales oxygen and inhales carbon dioxide (in the process of carbon synthesis). It is known that one should visit gardens/parks in the daytime and visiting them

in the night when plants respire and there is no carbon synthesis is harmful, as carbon dioxide is released and plants take in oxygen.

Research shows that the process of carbon synthesis on its own is sufficient for the exhaustion of all the carbon dioxide in the world, had it been the only process existing on Earth. However, Allah, the All-Knowing, the All-Aware, limited this process and made other forms of life emit carbon dioxide. He did not leave the process of destruction and production of carbon to randomness, but decreed that the relative amount of carbon dioxide in the atmosphere remains between three to four parts in every ten thousand parts of the atmosphere. This proportion must necessarily be constant for the survival of the world. Regardless of the variations in the rate of the processes of destruction or production of carbon dioxide, its relative proportion in the atmosphere has never changed.

## Adaptation in plants

Plants have been designed according to what suits their habitats in such a manner that can be accomplished by none other than Allah, Alone. Each plant has a well-known habitat which differs intrinsically from those of other plants. Anyone who contemplates this diversity and adaptation is amazed at the Dominion of Allah, Blessed and Exalted is He.



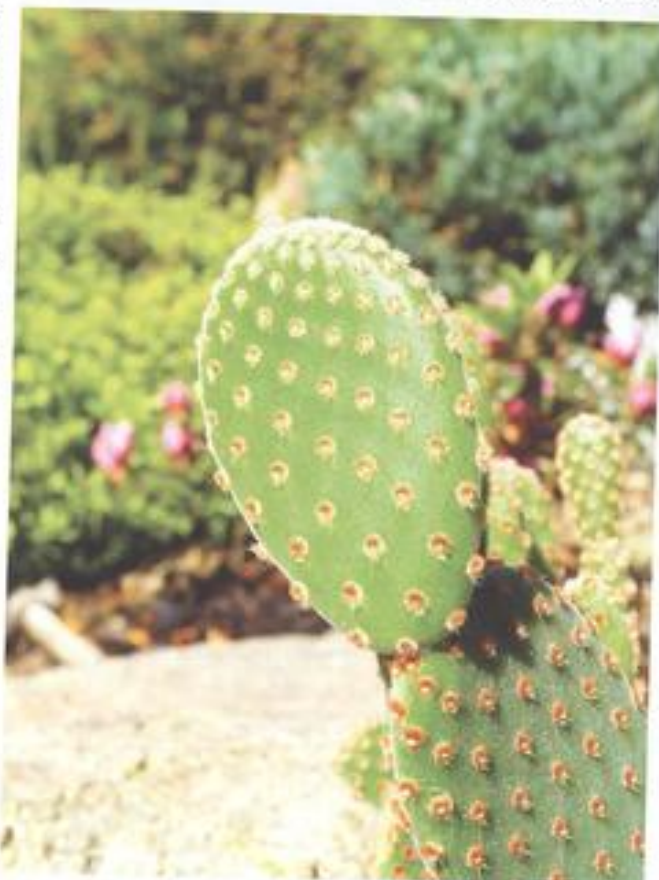
Respiration in plants



## Desert Plants

They are also known as xerophytic plants. They have the shape, structure characteristics and adaptations that enable them to withstand storms and wind, high solar inundation and high temperatures. Be they trees or shrubs they are very rough having a lot of thorns and interwoven branches so as to shade themselves from the sun. They form a rounded structure thereby screening away the sun as much as possible and thus protecting themselves from strong wind.

The leaves of these plants have cuticles with thick outer walls covered with a thick layer of dry material that is coated with a layer of wax. They also have stems and roots covered with cork, in some plants, the stems and leaves are covered with thick beads and filled with air from the base. This gives the plants a luminous appearance which reflects the radiation of the sun, thus preventing transpiration or reducing it. The leaves of a plant may wrap themselves in such a manner that the direct perpendicular rays of the sun



Desert Plant

do not fall upon it. The leaves of a plant may possess fewer stomata or narrow ones, they may also be covered with a layer of wax thus halting transpiration altogether. The plant therefore enters a state of dormancy until the rainy season returns. It is possible for the stomata to be found on the underside of the leaf, they could occur singly or in clusters in a single opening as in the Arabian Jasmine, or the guard cells may form a roof over the stomata keeping it away from the atmosphere.



Cactus

These plants also have special characteristics that enable them to obtain water. Their roots are relatively large, branching into the soil and going deep to great distances so as to cover a large volume from which it can suck water. They have special features which enable them to store water for their use during hot weather. They may store water in the plant parts in the earth such as bulbs, vines and tubers, or store them in their aerial stems as in the thorny fig, or in their leaves as in the Indian fig. Glorified is Allah, the All-Knowing the Ever-Able! Among the Signs of Allah is that since the number of these plants is few and they are constantly exposed (to the surface) to animals, they have been provided with adaptation features to protect themselves from harm. These include the covering of its leaves, stem and fruits with thorns or stiff hair or an effusion of volatile oils which repel animals.



## Aquatic Plants

Some plants live in water and differ in their internal structure and external form from other plants. Thus, they have no special organ for the intake of water. They take in water all over their bodies and the shape of their stems changes, taking up a different shape.



Aquatic Plant White Lilly

## Creepers (Climbing plants)

There are some types of plants with weak stems, that are not able to stand (upright) on their own. These plants have climbing apparatus which enables them to wrap around whatever supports they climb upon. Examples include the tendrils in grapes and green peas, or thorns as in some types of rose, or transverse roots by which they climb as in the pauper's rope.



Creeping Plant

## Insect eating plants

One of the Signs of Allah's creations which points to His Power, Glorified and Exalted is He, and the innovativeness of His Creation, is plants which feed on insects. These plants grow on soils that are very low in organic matter. Therefore, we observe that they have been provided with a mechanism that enables them to hunt insects and to suck their bodies for nutrition. It is truly amazing to note that each one of them has developed organs best suited to its pray.

♦ In certain plants we observe that its leaves move over a middle vein. Each leaf is provided with thorns on its upper surfaces. Whenever an insect falls on this plant, the two leaves are stimulated and close suddenly, trapping the insect between them. Then the plant secretes fluids which digests and dissolves the insects and sucks the digested material. Thereafter, the leaf returns to its former position, opening its two leaves ready to trap more pray.

♦ In other plants, the leaves





develop in the form of a jar made of covers which remain closed when the leaf is not developed fully. Then suddenly they open after the complete growth of the leaf. The jar is filled with acidic fluids excreted from glands on the inner surface of the leaf to attract insects. When the insects land upon the edges of the leaves they slip on its smooth surface or are attracted to the bottom of the jar by fine capillaries. Once it falls into the fluid in the jar, the lid closes to prevent it from escaping. The plant secretes fluids to digest the insect and then sucks it.

- ♦ The leaves of some insectivorous plants are covered with appendages whose ends terminate in glands that secrete sticky and acidic substances. When an insect lands upon these appendages, it gets stuck to it. The more it struggles to escape the more it gets entangled in other appendages until it is caught completely. Then the plant secretes digestive substances which dissolve the body of the insect. After sucking the fluid, the appendages return to their original position and the leaves to their original shape.

How do plants preserve their specie?

One of the Signs of Allah is the ability of plants to ensure the continued existence of their kind. The fruit which is the nutritional vessel for the seeds is equipped with appendages which assist its dispersion from one place to another via several means. The seeds of desert plants which are transported by wind are usually small



Hanging pitcherplant

in size and light to ease their transport by air. Tiny hairs or wing-like appendages may grow upon them to lighten their weight.

- ♦ The seeds of aquatic plants have appendages which enable them to float in water, and thick roots which prevent them from decay.
- ♦ There are species of seeds with attractive colors and sweet taste, others possess hooks by which they cling to the clothes of man or the fur of animals.
- ♦ Fruits of plants are cased by an envelope wrapped in a spiral manner after ripening. This enables the seed to be disseminated to distances away from the original tree. Examples include beans, green peas, sweet clover and devils nut, whose seeds explode with an echoing sound, which can be heard over a sufficiently long distance.

These are clear signs that plants are equipped with marvelous adaptive features to enable them to survive amid half a million species; varying in structure, reproduction, sustenance and lifespan.

There are plants which only live for a few days, some years and some whose lifespan exceeds the human lifespan many times over.





The ... tree at ... whose height is one hundred and twenty feet (120 ft) and whose circumference is twenty-three feet (23 ft) preceded Jesus Christ by about forty years and remains standing till date.

The age of a tree in ... has been estimated at three thousand years (3,000 years). The longest living trees are probably the ... species which live for up to six thousand years (6,000 years).

In February, 1956 C.E., Professor Robertson, a renowned botanist, discovered a petrified branch of an ancient tree during an atmospheric survey he carried out at the Hantaj Company in Jordan. After studies were conducted at a scientific laboratory in Paris, it became clear that the age of this tree was about one hundred and fifteen million year. Scientists explained the importance of this discovery which throws light on the issues of the age of universe, the history of succession of life (on Earth) and the (temporal) spread of all forms of life: plants, animals and man. Glorified be He, the One Existing prior to the existence (of the universe)!

﴿أَوَلَمْ يَرَوْا إِلَى الْأَرْضِ كَرَّرْنَا فِيهَا مِنْ كُلِّ رَوْحٍ كَرِيمٍ ﴿٢٠﴾ إِنَّ فِي ذَلِكَ لَآيَةً وَمَا كَانَ أَكْثَرُهُمْ مُؤْمِنِينَ﴾

"Do they not observe the Earth, – how much of every good kind We cause to grow therein. Verily, in this is an Ayah (proof or Sign), yet most of them (polytheists, pagans, etc., who do not believe in Resurrection) are not believers." (Soorah Shu'ra 26:7-8).

(Allah wal-'ilm ul-Hadeeth – Abdur-Razaq Naufal)



## A Discourse between Truth and Falsehood

Allah, Most High, says:

﴿وَفِي الْأَرْضِ آيَاتٌ لِلْمُوقِنِينَ ﴿٥١﴾ وَفِي أَنْفُسِكُمْ أَفَلَا تُبْصِرُونَ﴾

"And on the Earth are Signs for those who have faith with certainty, and also in your own selves. Will you not then see?" (Soorah Adh-Dhaariyat 51:20-21).

Dr. 'Inayatullah Al-Mashriqi, one of the leading Indian physicists and mathematicians, renowned in the West for the discovery of several modern concepts and the first to propose the concept of Atomic bomb, said: "I left my house to fulfill some need, on a Sunday in 1909 CE. Suddenly, I saw the renowned astronomer, Sir James Jeans, a lecturer at the University of Cambridge. I approached him and greeted him. He asked me, "How may I help you?" I said to him, "Your umbrella is still under your armpit despite the heavy downpour!" Sir James smiled and opened his umbrella immediately. Then he paused for a moment and said, "You must have some tea with me tonight."

"When I arrived at his house that evening, his daughter, Miss James, came out at 40 clock and informed me that Sir James had been expecting me. When I entered his room, I found him in front of a small table with



tea cups upon it. The professor was engrossed in his thoughts. When he noticed my presence he said: 'What do you want?' Rather than waiting for my response, he began to give a lecture about the formation of cosmic bodies, their amazing order, their dimensions and circumambulating sparking light, till I felt my heart convulsing out of reverence for Allah, Most High.

As for Sir James I found the hair of his head standing upright, tears flowing from his eyes and his hands trembling out of reverence for the Creator. Then he stopped suddenly, and said: 'Whenever a theory is proposed about the marvelous creations of God, I find my entire self trembling for the Greatness of my God, whenever I bow before God and say: "You are



Grandiose". I find every part of my essence corroborating me in this supplication of mine. I feel immense tranquility and fortune, and perceive a success which exceeds that of others more than a thousand times. Do you understand?"

Dr Inayatullah adds: "This lecture aroused a storm in my intellect and I said to him: 'Sir, I am deeply impressed by the scientific details you have narrated to me, and I recollect in this regard a Verse from the Holy Book of Allah. If you permit, may I recite it to you?' He nodded, so I recited to him the following Verse:

﴿أَلَمْ تَرَ أَنَّ اللَّهَ أَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ ثَمَرَاتٍ مُخْتَلِفًا أَلْوَانُهَا وَمِنَ الْجِبَالِ جُدَدٌ بَيَضٌ  
وَسُفْرٌ مُخْتَلِفٌ أَلْوَانُهَا وَغَرَابِيبُ سُودٍ ۚ وَ مِنَ النَّاسِ وَالْأَنْعَامِ مُخْتَلِفٌ  
أَلْوَانُهُ ۚ كَذَلِكَ إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ ۚ إِنَّ اللَّهَ عَزِيزٌ غَفُورٌ ۝﴾

"See you not that Allah sends down water (rain) from the sky, and We produce therewith fruits of varying colors, and among the mountains are streaks white and red, of varying colors and (others) very black. And of men and Ad-Dawwab (moving living creatures and beasts, etc.), and cattle, in the like manner of various colors. It is only those who have knowledge among His slaves that fear Allah. Verily, Allah is Almighty, Oft-Forgiving." (Soorah Fatir 35:27-28).

Sir James asked in amazement: "What did you say?"

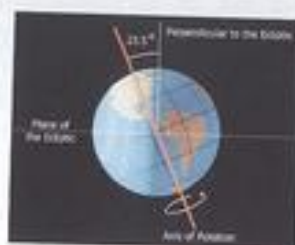
﴿إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ﴾

"It is only those who have knowledge among His slaves that fear Allah."

This is absolutely amazing! What you have revealed (to me) is what I have studied and discovered (only) after fifty years of research! Who informed Muhammad about it?"

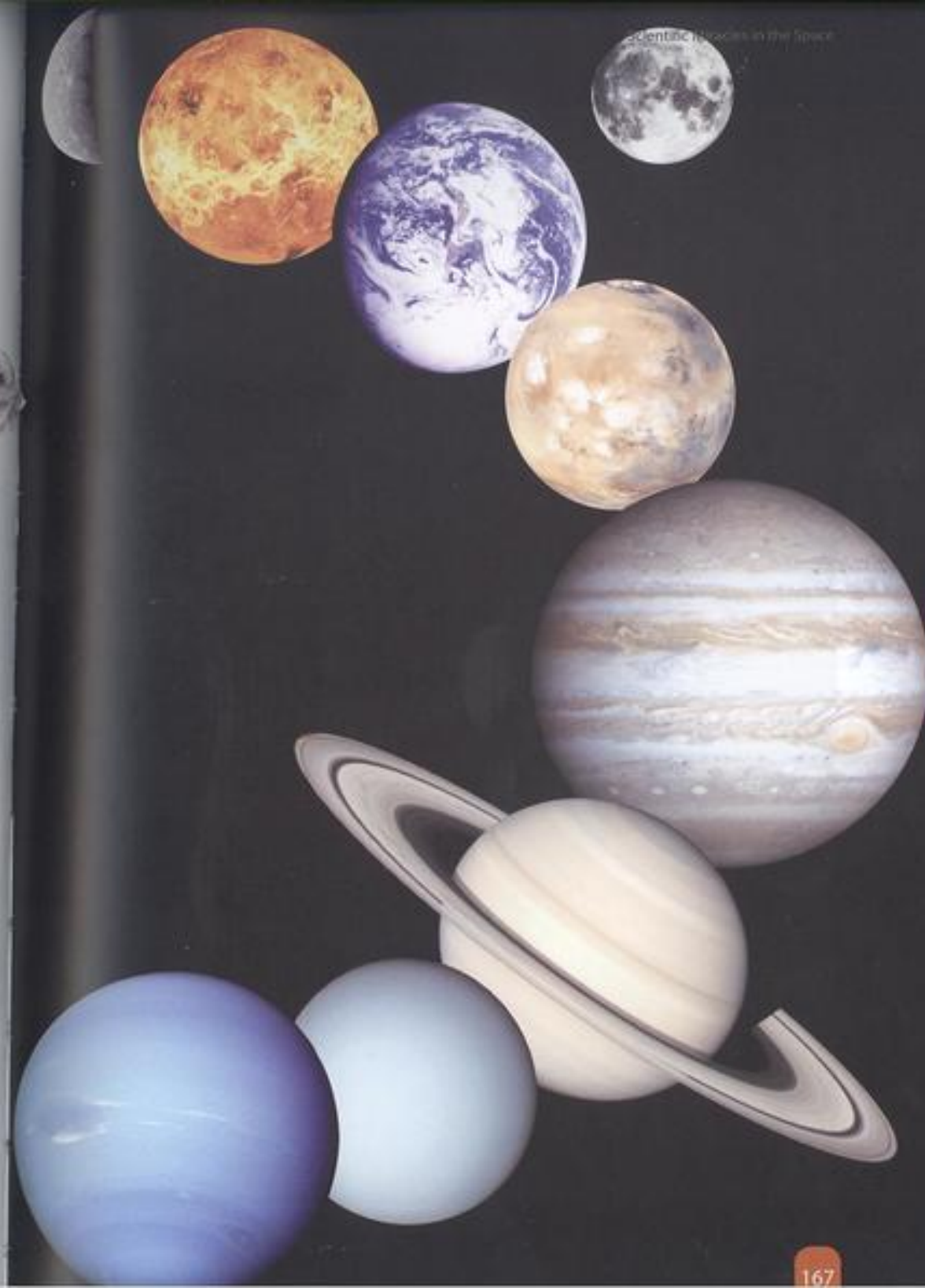
(Taken from the book - *Hiwarun Bayn Al-Haqq Wal-Batil*).





## Scientific Miracles in the Space

### Section 2







## Scientific Miracles in the Space

**I**n the middle of the twentieth century, the scientific contest to explore Space, the orbits and galaxies, commenced among the developed nations. The race to conquer space virtually reached war-footing, given the level of challenges and conflicts between world powers due to their struggle for dominance in this field of study.

Surprisingly, each time the world makes a breakthrough in unraveling the universe, we increase in certainty that the One Who created this Universe is the One Who revealed the Qur'an.

(Dr. Zaghloul An-Najjar)





The Universe



## Facts about the Universe

### The Universe

The universe includes everything in existence, ranging from the minutest of particles, which are smaller than atoms to the massive and magnificent clusters of galaxies. The size of the universe is not known to anybody. However, the most popular theory about the origin of the Earth is the "Big Bang Theory" which posits that the universe has

been in existence since a gigantic explosion known as the Big Bang occurred some 10 to 20 billion years ago.

Initially, the universe was in the form of an intense hot and dense ball of fire made up of gases, expanding and cooling after roughly every one million years. The gases began to get denser, massing up in rings. These formed the emerging galaxies. With the passage of several billion years, the universe has continued to expand though some of it contains particles of matter tightly bound together due to strong gravitational pull like several of the massive galaxies.

At present, astronomers do not know for certain whether the universe is a closed system, i.e. will it eventually stop expanding

and begin to shrink or an open system, i.e. will it continue to expand endlessly?

### The Galaxies

A galaxy is a gigantic cluster of stars and nebulae formed from the matter dispersed between the stars. There are three categories of galaxies based on their form (shape):

- (i) Elliptical galaxies with







The Galaxy

ovate shape

(ii) Helical galaxies with arms winding spirally toward the exterior as though exploding due to central centrifugal swelling.

(iii) Irregularly shaped galaxies possessing no definite shape.

However, the shape of a galaxy could change sometimes due to its collision with another galaxy.

Quasars are compact bodies, which produce a lot of light and are considered to be the core of galaxies, except that they are so far away that their true nature is difficult to ascertain as they fall outside the realm of the known universe.

The farthest known quasars (similar to stars) are found at a distance of 15 billion light years away. It is believed that radiation from energetic galaxies and quasars are due to black holes.

## The Milky-Way

This is the name given to the pale luminary band stretching from one end of the nightly sky to the other. This illumination comes from the stars and nebulae within our galaxy, which is often referred to as the Milky Way.

The Milky Way is a helical galaxy made up of a dense central centrifugal swelling encircled by four arms spirally winding toward the exterior. This is surrounded by a less dense halo. From our position on Earth we are unable to observe this helical shape because our Solar System lies in one of these spiral arms, referred to as the "Giant Arm". Hazy and dusty clouds completely obscure the center of the galaxy thereby allowing us no visual picture or map of the galaxy except a very limited one.

The central centrifugal swelling is a relatively small but dense ball. It consists mainly of ancient stars emitting red and yellow beams of light. The halo on the other hand is a sphere consisting of the oldest stars, some of which are as old as the galaxy itself (up to 15 billion years old). Frequently, the helical arms consist chiefly of young hot blue stars and nebulae (clouds of gases and dust from which stars form). The galaxy is gigantic in its vastness and revolves with all its contents in space in such a manner that stars within it move at a greater speed than stars outside it. The sun is at a distance from the center of the galaxy by two-thirds ( $2/3$ ) of the radius of the galaxy. It completes its revolution about the galaxy once in roughly 220 million years.



Milky Way from Olmstead Point





Nebula Egel M16

### Nebula and Stellar Cluster

**Nebula:** This is a cloud of dust and gases existing within a galaxy. A nebula becomes visible when its constituent gases glow or when its cloud of dust and gases reflect the light of stars or when they obscure light rays from much farther sources.

A light emitting nebula glows because its gases are excited or because its dust reflects rays emanating from stars within it or from stars in other directions in its surroundings. Dark nebula, on the other hand, becomes visible in the form of shadows when they obscure light rays emanating from a glowing nebula or stars behind it.

There are also nebulae accompanying extinct or dead stars:

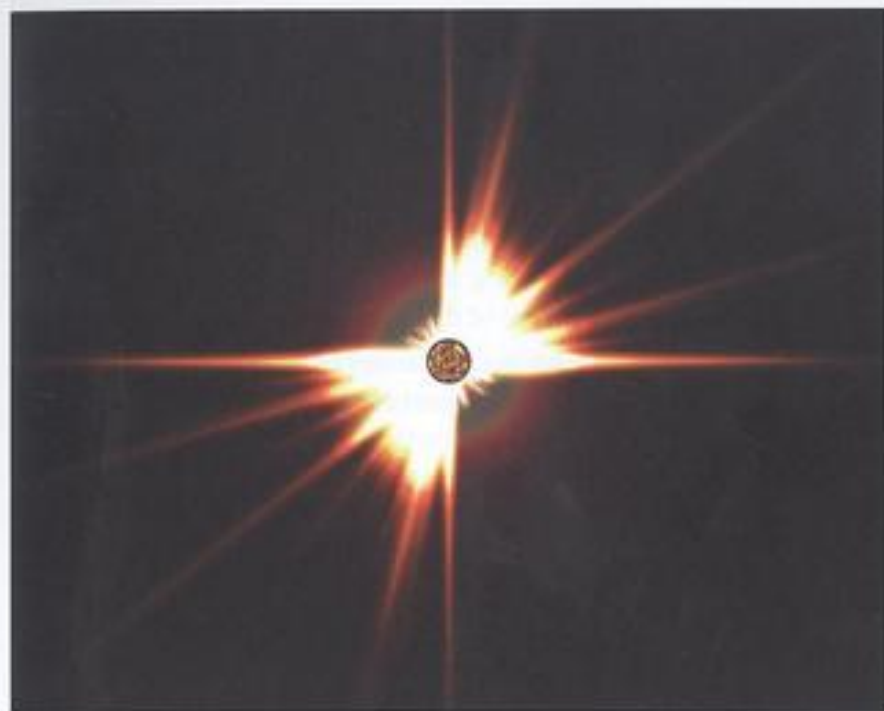
**Stellar Nebula and residue of explosive stars:** Each is composed of dilated gaseous residue.

**Stellar Nebula:** These are gaseous envelopes swept far away from an extinct stellar core.



**Giant Glowing Residual Nebulae:** These are gaseous envelopes swept far away from a stellar core at great speeds due to an enormous explosion; the explosion of the giant residual nebula itself.

Stars usually occur in agglomerations known as star clusters. It is possible to distinguish between disorderly/loose stellar clusters, usually made up of a few thousand young stars (which originate from the cloud itself and thereafter each farther away from the other) and densely packed spherical stellar clusters containing hundreds of thousands of ancient stars.



### The Stars

Stars are made up glowing hot bodies of gaseous matter, which originate from within the nebulae. They vary extensively with regards to size, compactness and heat. The color of a star is determined by its heat: the hottest of stars are blue in color while the coolest are red. The sun which has superficial surface temperature of  $5,500^{\circ}\text{C}$  falls in between the two extremes and thus appears yellow in color.





Stars in deep sky

The origin of energy radiating from a star comes from the nuclear fusion which occurs in the core of the stars.

The major clusters exhibit the characters of their lead cardinal stars (that which fuses hydrogen to produce helium), their huge and gigantic stars, and their white dwarfs.

#### Neutron stars and Black holes

Neutron stars and Black Holes are formed from the core of stars, which remain as it is after an explosion. They form in the shape of large colonies. When the mass of the surviving core is roughly one and a half times the mass of the sun and about three times the mass of the sun, it shrinks and forms a neutron star, but if its mass is much greater than three times the mass of the sun, it shrinks and forms a black hole. The diameter of neutron stars is roughly 10km only. They are made up



Neutron stars

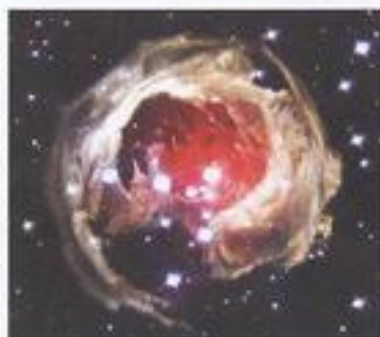
of very small particles (smaller than atoms) known as neutrons. These are very dense stars with a teaspoon-full of their material weighing about a billion tons.

Detailed observations show neutron stars as pulsating sources of radio waves known as pulsars. They are so called because they revolve about their axis at extreme speeds between two limits bursting across the sky and becoming visible as pulses.

From another perspective, Black Holes differ (from neutron stars) by the strength of their gravitational pull, which reaches levels such that not even radiant light can escape from it. This is why Black Holes remain invisible bodies. Despite this, it is possible to illuminate them when there is an adjacent star nearby. This happens because the Black Hole attracts gases from the star and thus, a hazy, disc-like buildup gravitates toward the Black Hole and revolves around it at great speeds. This raises its heat and it releases its radiant energy. Eventually, this gaseous material whirls inside the Black Hole, becoming a part of it and part of the invisible universe.

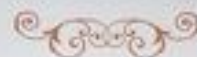
#### Stellar Constellation

These are magnificent stellar patterns which we observe in the sky every night from different localities. It is not necessary that such constellation be bound by a physical relationship: usually most of these stars are not close to one another. In fact, they usually do not fall into a single stellar cluster. Some of the stars of a constellation may be relatively close to one another from the Earth while the others are at relatively great distance (from the Earth). What we know of the stars of any single constellation is that they appear on the Earth in a particular direction.



A stellar flash like living-creatures





"Verily, we have adorned the near heaven with stars (for beauty), and to guard against every rebellious devil. They cannot listen to the higher group (of angels) for they are pelted from every side. Outcast, and there is a constant (or painful) torment. Except such as snatch away 'something by stealing' and they are pursued by a flaming fire of piercing brightness." (Soorah As-Saffat 37:6-10).

The Noble Qur'an affirms this dispatch of the falling stars upon the devils to prevent them from eavesdropping and to restrict them from going beyond certain limits in the sky.

Allah, the Exalted, says:

﴿وَلَا كُنَّا نَقْعُدُ مِنْهَا مَقْعِدًا لِمَتَاعٍ ۚ فَمَنْ يَسْمِعْ ۙ أَفَنَسْمِعِ ٱلَّذِينَ يَحْدِلُونَ ۚ رَبُّهُمْ أَشَدُّ بَصِيرًا﴾

"And verily, we used to sit there in stations, to (steal) a hearing but anyone who listen now will find a flaming fire watching him in ambush." (Soorah Al-Jinn 72:9).

## The Falling Stars (Meteors)

These are small radiant fast-moving dots in the sky which leave a luminous trail behind them and then quickly become extinguished. In Arabic language they are called *Ash-Shuhub* - shooting stars whose singular is *Ash-Shihab*: that which falls (from the sky) at night. It is actually a blaze of fire. These falling stars are given particular mention in the Qur'an, with the exact name, which science has adopted i.e. *Ash-Shuhub* - falling star.

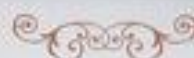
Allah, the Exalted, says:

﴿إِنَّا زَيْنَّا السَّمَاءَ الدُّنْيَا بِرَبِّهِمُ الْكَوَكِبِ ۝ وَجَعَلْنَا مِنْ كُلِّ شَيْءٍ قَابًا ۝ لَا يَسْمَعُونَ إِلَىٰ آلَافِ مِائَاتٍ ۝ وَيَذْفُونَ مِنْ كُلِّ حَاسِبٍ ۝ مُخَوَّرًا وَهُمْ عَذَابٌ وَاصِبٌ ۝ إِلَّا الَّذِينَ هُمْ لِنُجُفَاءِ فَتَقَعُوا فِيهَا فَكَانَتْ ۝﴾



A Beautiful view of a shooting star goes across the night sky





## Life on the Stars

Allah, Most High, says:

﴿وَقَدْ يَسْجُدُ مَا فِي السَّمَوَاتِ وَمَا فِي الْأَرْضِ مِنْ دَابَّةٍ وَالْمَلَائِكَةُ وَهُمْ لَا يَسْتَكْبِرُونَ﴾

"And before Allah prostrate all that is in the heavens and all that is on Earth, of the moving (living) creatures and the angels, and they are not proud (i.e. they worship their lord (Allah) with humility)." (Soorah An-Nahl 16:49).

The angels are not included in the meaning of the word "Dabbah" (moving creatures) because they do not crawl on the Earth or walk on feet and the word "Dabbah" only refers to the living creatures composed chiefly of water and having limbs and organs based on His saying:

﴿وَاللَّهُ خَلَقَ كُلَّ دَابَّةٍ مِنْ مَّاءٍ فَمِنْهُمْ مَنْ يَمْشِي عَلَى بَطْنِهِ. وَمِنْهُمْ مَنْ يَمْشِي عَلَى سَاقَيْنِ وَبَعْضٌ مَّنْ يَمْشِي عَلَى أَرْبَعٍ ۚ وَاللَّهُ مَا يَشَاءُ أَلِيمٌ﴾

"Allah has created every moving (living) creature from water. Of them there are some that creep on their bellies, and some that walk on two legs, and some that walk on four. Allah creates what He wills, Verily, Allah is Able to do all things." (Soorah An-Noor 24:45).

This is what the Noble Qur'an points to. So what does Science say about this?

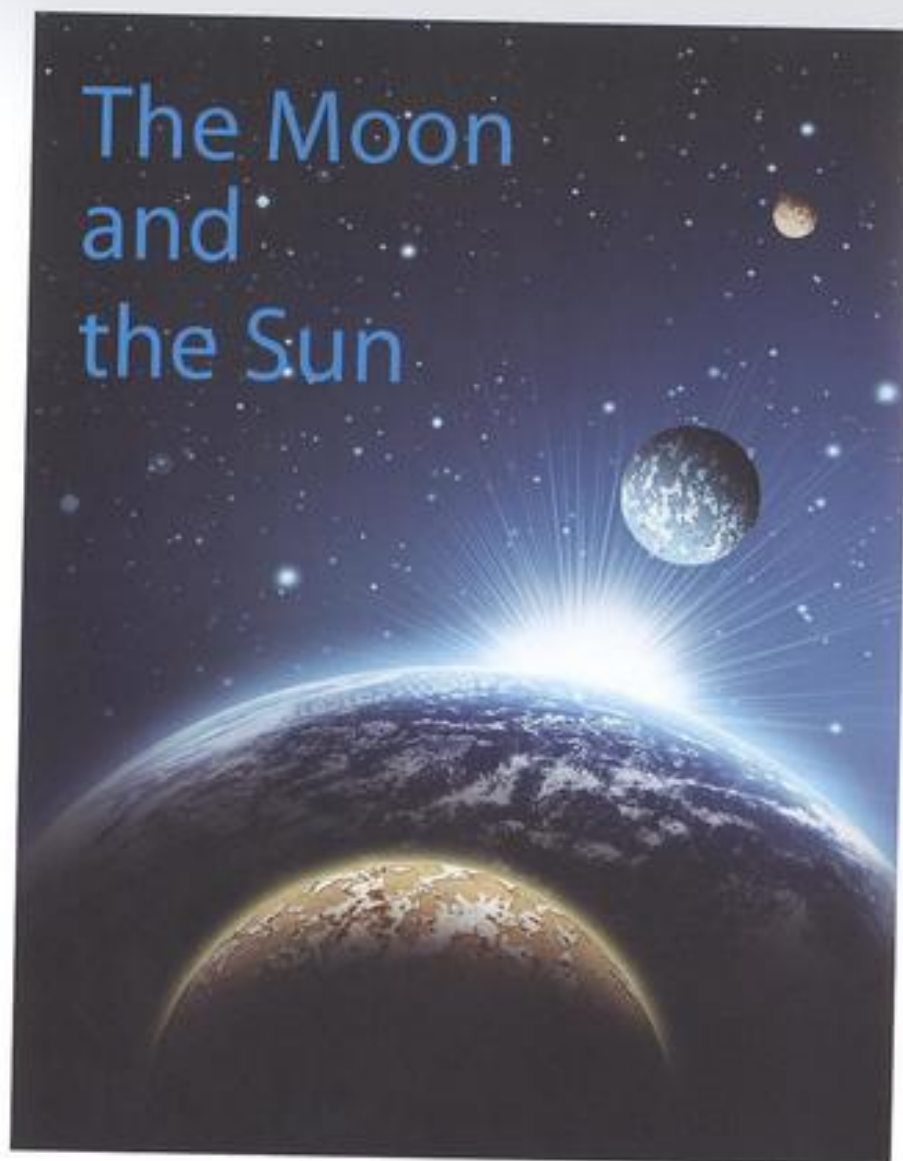
- Some astronomers say: It is not strange that some celestial bodies should be inhabited by life, rather: it would be strange if they are not!

In 1970, NASA announced in California that a meteor that had landed in Australia the previous year contained some amino acids, which are regarded as the building block of basic life forms. This indicates the possibility of life beyond the planet Earth. In 1974, the first message (in the form of signals) was sent into the universe. Its transmission lasted 3 minutes. This message was designed to provide information about the Earth and its surroundings.

This activity drew the attention of the whole world, as it was an issue of significance to mankind as a whole and not just to the nation launching it.







planet with sunrise on the background of stars and parade of planets

It has been found that the moon travels at a speed of 18 kilometers per second and the Earth 15 kilometers per second and the sun 12 kilometers per second. The sun moves and so do the Earth and the moon. Allah, Most High, says:



﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَهَا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ ٣٨﴾  
 ﴿وَالْقَمَرَ قَدَرْنَاهُ مَنَازِلَ حَقٍّ عَادَ كَالْعُرْجُونِ الْقَدِيمِ ٣٩﴾ لَا الشَّمْسُ يَنْبَغِي  
 لَهَا أَنْ تُدْرِكَ الْقَمَرَ وَلَا اللَّيْلُ سَابِقُ النَّهَارِ وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ ٤٠﴾

"And the sun runs on its fixed course for a term (appointed). That is the Decree of the Almighty, the All-Knowing. And the moon, we have measured for it mansions (to traverse) till it returns like the old dried curved date stalk. It is not for the sun to overtake the moon, nor does the night outstrip the day. They all float each in its orbit." (Soorah Ya Seen 36:38-40).

Allah says:

﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَهَا﴾

"And the sun runs on its fixed cause for a term (appointed)..."

And then He says:





﴿لَا الشَّمْسُ يَنْبَغِي لَهَا أَنْ تُدْرِكَ الْقَمَرَ﴾

"It is not for the sun to overtake the moon ..."

So is the moon ahead of the sun or not? Definitely, the moon is ahead and running and is not overtaken because the speed of the moon is 18 kilometers per second while that of the Earth is 15 kilometers per second and the speed of the sun is 12 kilometers per second. Thus, as fast as the sun orbits, it will not overtake the moon. However, what makes the moon maintain its speed?

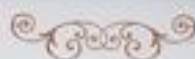
Is it possible for it to move onward and abandon its path?

It was found that the moon moves in a curved winding manner and does not maintain a particular path. Just contemplate the motion of the moon. The sun, the Earth, and the stars are in motion; were their relative speeds to alter, then a day will come when we would query: 'Where is the sun?' and the answer would most likely be "It is twenty stations late today!" Then possibly someone would come after a year and say, 'Where is the sun?' and we would respond, 'It has lost its way!'

So contemplate upon who has set every celestial body in motion in such a precise manner?



Sun, Earth and Moon



Sun in the space

﴿وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"...and they all float, each in an orbit."

They float and preserve their orbits, speed and position. Whose making is this? Undoubtedly, this is the Decree of the Almighty, the All-Knowing! Is this decreed or not? Or is this order coincidental? Definitely not, it surely emanates from a deliberate intent. It is a decree from the One Who is Ever Capable, Glorified and Exalted. He placed each thing in its position and makes it run its course.

(Wa Gadaah 'Asr ul-Eeman by Shaykh Abdul Majeed Az-Zindanee)





### The movement of the sun

Is the sun stationary? Even though it may appear to be stationary, the answer is: No, it is not.

Astronomical observations show that the sun floats in space at an estimated speed of 30 kilometers per second in the direction of a star known as "Hercules". Therefore, the Earth's orbit about the sun is a helical one and not elliptical. In its yearly motion, the sun passes by twelve conglomerations of stars called constellations, every month.

He, Most High, says:

﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَّهَا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ﴾

"And the sun runs on its fixed course for term (appointed). That is the Decree of the Almighty, the All-Knowing." (Soorah Ya Seen 36:38).

### The Sun: A blazing celestial body

When mentioning the sun, the Noble Qur'an usually describes it as a *Sirajun Muneerun* (a radiant lamp). Being a lamp and being radiant are two constant attributes of the sun.

-He says:

﴿سُبْحَانَ الَّذِي جَعَلَ فِي السَّمَاءِ بُرُوجًا وَجَعَلَ فِيهَا يَرِينًا وَقَمَرًا مُبِينًا﴾

"Blessed is He Who has placed in the heavens big stars (stellar constellations) and has placed therein a great lamp (sun), and a moon giving light." (Soorah Al-Furqan 25:61).

We notice that wherever the Qur'an talks about the moon, it always describes it as luminous. Thus, luminosity is a constant attribute of the moon. If we turn to the Arabic language to contemplate the fine meanings of the words *Siraj* (lamp), *Mudhee* (radiant or light giving) and *Muneer* (luminous) and to appreciate the difference, we find that a thing is not described as a lamp or radiant except that it reflects light without heat and also, light emanates from it. And you say it is *Muneerun* (luminous) when it reflects light falling on it from another celestial body. Based on this linguistic exposition, the Verse implies that the sun is a blazing/burning celestial body and that the moon is a cool celestial object which obtains its light from the sun.

### Proliferation of Suns

Allah, Most High, says:

﴿وَمِنْ مَّآثِرِهِ اللَّيْلُ وَالنَّهَارُ وَالشَّمْسُ وَالْقَمَرُ لَا تَسْجُدُوا لِلشَّمْسِ وَلَا لِلْقَمَرِ وَاسْجُدُوا لِلَّهِ الَّذِي خَلَقَهُنَّ إِن كُنتُمْ إِيَّاهُ تَعْبُدُونَ﴾

"And from among His Signs are the night and the day, and the sun and the moon. Prostrate yourselves not before the sun nor before the moon, but prostrate yourselves before Allah who created them, if you (really) worship Him." (Soorah Fussilat 41:37).

The letter "*noon*" indicating feminine form also signifies plurality in His saying: "*Khalaqahunna*". It is also an indication of the existence of



several suns and moons and this is what science establishes.

In space, several solar clusters run along with their stars, which are similar to our sun but bigger. Each star has one or more moons which accompany it. Glory be to the One Who controls these celestial bodies in detailed orderliness. Astronomers have discovered so far that the number of these suns exceeds 2 million. This is what has been discovered. But what about that which is undiscovered as yet?



### The moon was a blaze then put out

Science has revealed that the moon was once ablaze and burning, and then its light and blaze were extinguished. This was not known until recently. It came to be known after sophisticated instruments and technology became available to researchers. However, this has been mentioned in the statement of the Most High!

﴿وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَاتَيْنِ ۖ فَمَحَوْنَا آيَةَ اللَّيْلِ وَجَعَلْنَا آيَةَ النَّهَارِ مُبْهِرَةً لِّبَنَاتِنَا ۚ فَمِنْ رَّبِّكُمْ وَلِتَعْلَمُوا عَدَدَ اللَّيْلِ وَالنَّهَارِ ۚ وَكُلُّ شَيْءٍ فَصْلَانَهُ تَقْوِيلًا ۝﴾

"And We have appointed the night and the day as two Ayaat. Then, We have obliterated the sign of the night (with darkness) while we have made the sign of the day illuminating, that you may seek bounty from your Lord, and that may know the number of the years and the reckoning. And We have explained everything (in detail) with full explanation." (Soorah Al-Isra 17:12).

The sign of the night is the moon and that of the day is the sun. "We have obliterated the sign of the night", i.e. the Creator put out and extinguished its light. Extinguishment does not occur except that it had once been luminous. From this, we come to realize that the moon was once blazing but was later extinguished.



Different phases of Moon

This discovery had been made upon the tongue of "the authority of the Ummah", 'Abdullah Ibn 'Abbas, may Allah be pleased with him, when he said: "The moon was luminous just as the sun is luminous, and the moon is the sign of the night while the sun is the sign of the daytime - (then we obliterated the sign of the night) - i.e. the darkness in the moon." And Allah knows best and He is Most Wise.

♦ Shaikh Az-Zindani said: "There was a documentary film produced by an American firm about the efforts of America to conquer the moon entitled *A Giant Step: Investigating the Geology of the Moon*. The film showed how the American experts were able to discover that the moon was once brightly lit. It was a burning sphere, which later cooled. It also showed how they demonstrated this fact by sending instrumentation to the moon in order to measure waves emanating from it. They generated sound waves and the waves



traveled within the moon. They showed how the core of the moon remains still burning even now. They took several rock specimens from within the moon, from its surface, mountains and the two valleys on it. After analyzing and studying the samples they came to the conclusion that the moon was once burning but is now extinguished".

I said to myself, a more befitting title for this film would be the statement of Allah, the Exalted and Glorified, or the exegesis of the statement of Allah:

﴿وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَاتَيْنِ ۖ فَحَوَّاثًا مَّاءَةً أَلْيَلٍ وَجَعَلْنَا مَاءَةَ النَّهَارِ مُبِيرَةً ۖ لِّبَشَرٍ ۖ فَضَلًا مِّن رَّبِّكَ ۚ وَلِتَعْلَمُوا عَاقِدَاتِ الْوَيْتِينَ وَالْحِسَابَ ۚ وَكُلُّ شَيْءٍ وَفَصَّلَتْهُ تَفْصِيلًا ۝﴾

"And we have appointed the night and the day as two Ayat. Then, we have obliterated the sign of the night (with darkness) while we have made the sign of the day illuminating, that you may seek bounty from your Lord, and that may know the number of the years and the reckoning. And we have explained everything (in detail) with full explanation." (Soorah Al-Isra 17:12).

Muslim scholars such as Ibn 'Abbaas, may Allah be pleased with them both, and others have said: The sign of the night is the moon and the sign of the day is the sun.

﴿فَحَوَّاثًا مَّاءَةً أَلْيَلٍ ۝﴾

"Then, We obliterated the sign of the night."

He said: The moon was once luminous, and then its light was extinguished.

﴿فَحَوَّاثًا مَّاءَةً أَلْيَلٍ وَجَعَلْنَا مَاءَةَ النَّهَارِ مُبِيرَةً ۝﴾

"Then, We obliterated the sign of the night (with darkness) while We have made the sign of the day illuminating."

This is why He, Most High, says:

﴿تَبَارَكَ الَّذِي جَعَلَ فِي السَّمَاءِ بُرُوجًا وَجَعَلَ فِيهَا سِرَاجًا وَقَمَرًا مُّبِيرًا ۝﴾

"Blessed is He Who has placed in the heavens big stars (stellar constellations) and has placed therein a great lamp (sun), and a moon giving light." (Soorah Al-Furqan 25:61).

Had the Qur'an come from Muhammad, peace and blessings of Allah be upon him, i.e., from an unlettered man, he would have said he placed therein *Sirajayn* (two lamps), a lamp for the day and a lamp for the night. A hot lamp and a cold lamp and who would have faulted him? However, the Qur'an is from the All-Knowing, the All-Wise, thus He said: "And has placed therein a great lamp," i.e. the sun and a moon "giving light". That the luminance of the moon is mentioned after the mention of the great lamp indicates that the moon illuminates as a result of the light of the great lamp. Glorified is Allah, the Almighty!

(Al-Im Tareeq il-Eeman by Shaykh Abdul Majeed Az-Zindanee)





## Say: See what Allah has created

### The Taurus

This refers to a group of stars found in the constellation that consists of seven stars. Thus, the name "*Thurayya*" (Taurus) has an origin associated with "*Al-Thurayyah*" that means good and abundance.

Today we are able to distinguish six of the stars easily although our ancestors could clearly see seven due to the strength of their sight such that the seventh star was located in the center of the group. Taurus is approximately five hundred and forty-one (541) light years away from us, its luminous intensity is estimated at 2.86. Its size is nine times that of the sun and its surface temperature is five times that of the sun.

The clearest view of auris is during the winter season, when it is seen as an astonishing stellar nebula that glows as a gigantic dot.

### Extinct Star

Allah, Most High, says:

﴿فَلَا أُقْسِمُ بِمَوْقِعِ النُّجُومِ﴾

"So I swear by Mawaqe' (setting or the mansions, etc.) of the stars (they traverse)" (Soorah Al-Waqiyah 56:75).

﴿يَسْأَلُ أَيَّانَ يَوْمَ الْقِيَامِ﴾ ﴿فَإِنَّا رَأَى الْقَمَرَ﴾ ﴿وَحُصِفَ الْقَمَرُ﴾

﴿وَجُمِعَ الشَّمْسُ وَالْقَمَرُ﴾ ﴿يَقُولُ الْإِنْسَانُ يَوْمَئِذٍ أَيْنَ الْمَفَرُّ﴾

"He asks: 'When will be this Day of Resurrection?' So, when the sight shall be dazed, and the moon will be eclipsed, and the sun and moon will be joined together (by going one into the other and folded up or deprived of their light, etc.). On that Day man will say: 'where (is the refuge) to flee?'" (Soorah Al-Qiyamah 75:6-10).

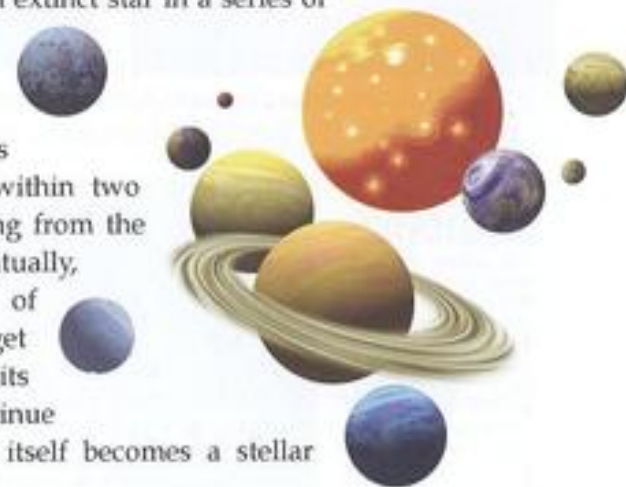
And He, Most High, says:

﴿فَإِنَّا أَنْشَقْنَا السَّمَاءَ فَكَانَتْ وَرْدًا كَالِالهِبَانِ﴾

"Then, when the heaven is rent asunder, and it becomes rosy or red like red-oil or red hide." (Soorah Ar-Rahman 55:37).

This colored picture shows the structure of a stellar nebula: a huge cloud of gas hurled by an extinct star in a series of successive explosions.

The hurled material reaches a body of blazing gas, which arises from a new explosion within two gaseous clouds originating from the previous explosions. Eventually, its nucleus composed of hydrogen atoms will get consumed Earth and its gaseous material will continue to spread until the sun itself becomes a stellar nebula.





## The Andromeda Galaxy

It is about two million light years away from us. Thus the light which we observe from the galaxy emanated from it two million years ago, i.e., when man had not even existed upon Earth. The light reaching us at present only enables us to view it as it was two million years ago. We do not know anything about its present state. Definitely, it must have moved away from its position. This is also true for all galaxies in the universe And Allah knows best.



Andromeda Galaxy

Allah, Most High, says in His Noble statement.

﴿أَفَلَا يَنْظُرُونَ إِلَى السَّمَاءِ فَوْقَهُمْ كَيْفَ بَنَيْنَاهَا وَزَيَّنَّاهَا وَمَا لَهَا مِنْ فُرُوجٍ﴾

"Have they not looked at the heavens above them, how we have made them and adorned them, and there are no rifts in them?" (Soorah Qaf 50:6).

And His statement:

﴿وَلَقَدْ جَعَلْنَا فِي السَّمَاءِ بُرُوجًا وَزَيَّنَّاهَا لِلنَّظِيرِ﴾

"And indeed, We have put the big stars in the heavens and We beautified them for the beholders." (Soorah Al-Hijr 15:16).



Cancer Nebula:  
A neutron star rotating upon its axis thirty times per second. 5 rays emanate from the center of the nebula.



A wonderful example of a Stellar Nebula (NGC 3132) in the shape of an astonishing oyster shell surrounding luminous brilliant gas around the approximate center of the star. The gas expands around the star at a rate of nearly nine miles per second.



Cancer Nebula:  
A neutron star rotating upon its axis thirty times per second. 5 rays emanate from the center of the nebula.



Tri-segmented Nebula:  
A nebula with Zone Emissions. The gas and dust agglomerate to form a star.



The collision of two galaxies in space. The two are helical galaxies passing close to one another. This (Closeness) results in an important galaxial collision. The Gravitational force is preserved for the larger galaxy, which mutilates the smaller galaxy. NGC.





## Verses regarding the Universe in the Noble Qur'an

Dr. Zaghloul an-Najjaar

Certainly, the Noble Qur'an is a book of guidance revealed by Allah, the Mighty and Sublime, to clarify issues which the human intellect cannot, on its own comprehend. Examples include the essentials of

faith and worship, the fundamentals of manners and the law by which men will conduct their interactions. Added to these, the Noble Qur'an discusses issues related to the universe; things such as the skies, the earth and its constituents (e.g. moons, planet, star, nebulae etc), their positions and characteristics in more than one thousand verses with the intent to manifest the limitless Power and Authority of the Creator and His Perfect Knowledge and Wisdom, the Creator of this universe and the One capable of obliterating it and re-inventing it.

Thus, the verse of the Noble Qur'an having reference to the universe were not intended to provide scientific facts since Allah the Mighty and Sublimed intended that the process of gaining knowledge will involve observations, research and experimentation over long periods of time due to the limitations of human perception and the accumulative (progressive) nature of knowledge. Despite that, the verses of the Noble Qur'an necessary contain several indisputable scientific facts about the universe since it is a revelation from the Creator, the Mighty and Honored, and therefore it is absolute truth.

Four hundred and sixty-one of these verses mention the sphere of the earth, either describing its entirety or specifically stony external crust or weathered material above the fresh bedrock. As for the verses having geologic information about the earth, they are over one hundred and ten and can be grouped into eleven categories:

1. A single verse, which mandates mankind to voyage on the earth, observe it and make deductions from his observation regarding the origin of creation:





﴿قَدْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ  
ثُمَّ اللَّهُ يُنْشِئُ النَّشْأَةَ الْآخِرَةَ إِنَّ اللَّهَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ﴾

"Say: 'Travel in the land and see how (Allah) originated creation, and then Allah will bring forth (resurrect) the creation of the Hereafter (i.e. resurrection after death). Verily, Allah is Able to do all things.'" (Soorah Al-Ankaboot 29:20).

2. Following is the group of Verses which indicate:

a) The shape of the Earth: Qur'an 13 Verse 13, Qur'an 15 Verse 19, Qur'an 26 Verse 28, Qur'an 39 Verse 5, Qur'an 50 Verse 7, Qur'an 55 Verse 17, Qur'an 65 Verse 12, Qur'an 67 Verse 15, Qur'an 70 Verse 40 and 41.

b) The motion of the Earth: Qur'an 21 Verse 33, Qur'an 36 Verse 40, Qur'an 27 Verse 88, Qur'an 13 Verse 3, Qur'an 91 Verse 1-4, Qur'an 92 Verse 1-2, Qur'an 10 Verse 67, Qur'an 21 Verse 10-11, Qur'an 27 Verse 61-63, Qur'an 3 Verse 27, Qur'an 29 Verse 61, Verse Qur'an 31 Verse 29, Qur'an 35 Verse 13, Qur'an 57 Verse 6, Qur'an 36 Verse 37, Qur'an 2 Verse 164, Qur'an 3 Verse 190, Qur'an 10 Verse 67, Qur'an 23 Verse 80, Qur'an 45 Verse 5, Qur'an 14 Verse 33.

c) The origin of the Earth: The Qur'an 21 Verse 30, which clearly describes that the skies and the Earth were initial a single entity till Allah, Almighty and Sublime, cleaved them apart. He says:

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتَا  
رَتْقًا فَفَنَقْنَاهُمَا وَجَعَلْنَاهُمَا سَمَاءً وَتِلْكَ الْأَرْضُ يُوقُونَ﴾

"Have not those who disbelieve known that the heavens and the Earth were joined together as one united piece, then We parted them? And We have made from water every living thing. Will they not then believe?" (Soorah An-Anbiya 21:30).

This is what is described as the "Big Bang Theory" on the origin of the universe. This category (of Verses) also include Verses which point to the separate positions of stars such as in Qur'an 56 Verse 75-76, Verse which mention the constantly expanding nature of the universe such as Qur'an 51 Verse 47, the primordial smoky nature of the heaven such

as Qur'an 41 Verse 11-12, the vastness of the space between the stars such as Qur'an 5 Verse 17-18, Qur'an 15 Verse 85, Qur'an 20 Verse 6, Qur'an 21 Verse 16, Qur'an 25 Verse 59, Qur'an 27 Verse 24, Qur'an 30 Verse 8, Qur'an 32 Verse 4, Qur'an 37 Verse 5, Qur'an 38 Verse 10, 27 and 66, Qur'an 43 Verse 85, Qur'an 44 Verse 7 and 38, Qur'an 46 Verse 3, Qur'an 50 Verse 38, Qur'an 78 Verse 37, and the nature of the universe such as Qur'an 67 Verse 3, Qur'an 71 Verse 15, Qur'an 65 Verse 12,

3. A single Verse, which confirms that iron was sent down to us and that its compositional origin is foreign to the Earth: Qur'an 57 Verse 25.

4. A single Verse describing the Earth as being fractured: Qur'an 86 Verse 12.

5. A group of Verses, which explain some of the characteristics of the ocean, which have been discovered only recently:

The hot nature of the seafloors of some oceans and seas and those which describe the emergence of violent volcanoes beneath the sea which lead to seafloor spreading: Qur'an 52 Verse 6.

The distinction between different types of water bodies, for example, the distinction between salt and freshwater bodies or between saltwater bodies made of different types of salts, which do not mix at all or do not mix readily due to the presence of a barrier between them which cannot be crossed: Qur'an 25 Verse 53, Qur'an 55 Verse 19-20.

(c) The pitch-darkness, characterizing the deepest parts of the oceans which results from the layering of deep ocean currents, above which are shallow currents and above which are clouds: Qur'an 24 Verse 40.

6. One Verse describing the mountains as pegs: Qur'an 78 Verse.

7. It indicates that mountains consist of a smaller part above the Earth's surface compared to the large part which is buried beneath the Earth surface as though they were roots and its significance in the stabilization of continents and the whole Earth.

This significance of the mountains is further established by 10 other Verses which describe other significant features of mountains such as their influence in condensing seas to rain and the formation of sources of rivers: Qur'an 13 Verse 3, Qur'an 15 Verse 19, Qur'an 16 Verse 15,



Qur'an 21 Verse 31, Qur'an 27 Verse 61, Qur'an 31 Verse 10, Qur'an 50 Verse 7, Qur'an 77 Verse 27, Qur'an 79 Verse 32.

In Qur'an 88 Verse 19, the mankind is called upon to observe the way mountains have been erected such that they stand above the Earth's surface. These observations led to the formulation of the theory of Isostasy (i.e. equilibrium of pressure in all directions), which explains the erection of mountains and other elevated landforms upon the Earth's crust.

In Qur'an 35 Verse 27, the mountains are described as being made up of clearly distinct white, red and pitch-black constituents.

This Verse explicitly points to the existence of acidic mountains whose major constituent is granite, which comes in all shades of white and red and basic (alkaline) mountains principally of basalt and gabbro with mineralogy of magnesium which is dark colored. Each of the major (primary) classes of rocks has characteristic chemistry and mineralogy related to the degree of heat (during its formation) which manifests in its secondary and tertiary derivatives among sedimentary and metamorphic rocks. Thus, the importance of their three colors (white, red and black) in the classification of volcanic rocks and its derivatives becomes clear.

7. Group of Verses regarding the two Earth envelopes: the aquatic and atmospheric envelopes. The Noble Qur'an clearly mentions both originated from with the solid earth; Qur'an 79 Verse 30 and 31. This was only known recently. Other Verses in this group speak about special attributes which enable the atmospheric envelope to preserve life on the Earth: Qur'an 21 Verse 32, Qur'an 86 Verse 11. Yet others mention the pitch dark nature of outer space: Qur'an 15 Verse 14-15, the decrease in atmospheric pressure with height above the Earth's surface: Qur'an 6 Verse 125. Yet, others talk about the original nature of the night (due to the blazing of the moon) before the formation of the atmospheric envelope.

8. A group of Verses which describes the thin crust of the Earth: Qur'an 71 Verse 19, the continuous denudation and leveling of

the Earth's surface, the progressive alternation of the geographical dimensions of continents and even the process of self-absorption (subduction of plates at plate boundaries), which happens to the Earth as a whole and is related to the destruction of its crust: Qur'an 13 Verse 41, Qur'an 21 Verse 44, Qur'an 78 Verse 6.

9. Verses which confirm that the source of ground water is rainfall, indicating the significance of water: Qur'an 15 Verse 22, Qur'an 22 Verse 5, and others which make a link between life on earth and water: Qur'an 21 Verse 30, Qur'an 24 Verse 45, and another which points to the possibility of classifying life forms on Earth: Qur'an 6 Verse 38.

10. Verses which establish that the creation of the Earth occurred over a long period of time in successive stages: Qur'an 41 Verses 9 and 12, Qur'an 32 Verse 5.

11. Two Verses which describe the end of our Solar System by a process, which the reverse of its creation known scientifically as the Big Crunch: Qur'an 21 Verse 104. Thereafter, the creation of the universe. Qur'an 14 Verse 48.

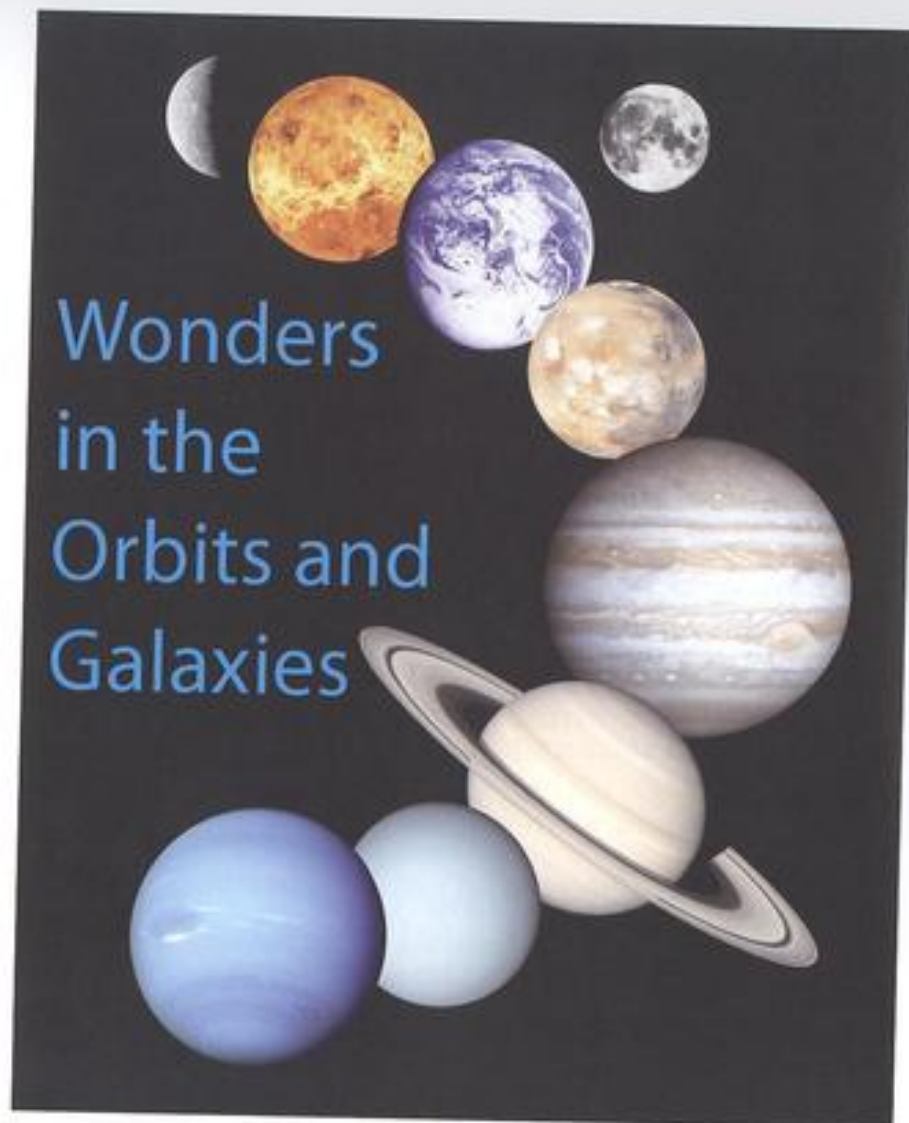
All these were unknown prior to the previous century (i.e. 20<sup>th</sup> century), and we have not begun to comprehend except the little from scientific observations which have come from detailed analysis and study.

The antecedence of the Noble Qur'an in pointing to this comprehensive and detailed knowledge indicate only one thing; a clear proof of the Miracle of the Noble Book (Qur'an) which is the last of the Divine revelation to mankind and the message of Monotheism preserved in the exact language of revelation word for word, letter for letter for over fourteen centuries of history.

It is obvious from the discussion that the number of Verses of the Qur'an which possess geologic indications exceed one hundred and ten. This will require a voluminous book for detailed discussion. Hence, we shall concentrate only on what has been mentioned previously about some of these Verses which establish facts and principles in sciences. We have mentioned these as an example of the miraculous nature of the Noble Qur'an.



## Wonders in the Orbits and Galaxies



During the middle of the 20<sup>th</sup> century, several nations began a rush to extensively explore and unravel the mysteries of cosmic space, orbits and galaxies. This naturally led to conflicts and tensions between the world powers, as each desired to surpass the other in its understanding and dominance of the outer space.

Strangely enough, as the world progressed in understanding the universe it became more certain that the Creator of the universe is the One Who revealed the Qur'an. The Verses of the Qur'an present this in the form of an extraordinary Divine revelation revealed fourteen centuries ago which penetrates the screens of the Unseen and the information regarding the future. We shall soon present examples related to the orbits, that have only been recently discovered. Allah says:

﴿وَلَتَعْلَمَنَّ يَوْمَ بَعْدَ جِيئِهِ﴾

"And you shall certainly know the truth of it after a while."

(Soorah Sad, 38:88).

Whenever the Qur'an mentions the heavens it is in fact referring to the universe, because (in Arabic) heaven refers to anything above us.

### Origin of the Solar System

The Qur'an broaches the subject of the origin of the universe and describes it in a remarkable way. Allah, Most High, says:

﴿أَوَلَمْ يَرَ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَتَقْنَاهُمَا﴾

"Have not those who disbelieve known that the heavens and the Earth were joined together as one united piece, then We parted them?" (Soorah Al-Anbiya' 21:30)

"Ar-Ratq" means fitting together, assembling and merging; "Al-Fatq" is the disconnection between two merged things. Thus, just as it is understood from the Verse that the Earth and heavens were fused together, then Allah separated them, so have the Muslim scholars indicated this in the past. Ibn 'Abbaas, may Allah be pleased with -him, said: "They were both glued together, then Allah raised the heavens and lowered the Earth."

Modern science describes this initial union and separation in a marvelous manner; the theory of nebula. Most of this theory is recognized as scientific fact today. The basis of the theory originated from the German scholar (Emmanuel) in 1755 and it states that the



formation of the Solar System involved several stages:

- Initially, there was a huge cloud of cold gases and dust with its parts moving randomly.
- Due to the differential pressure around the cloud of gases and dust, some of the dust gradually began to move within the cloud, and started to revolve around itself.
- Due to the differential speeds of the different parts, small whirlpools developed, they were pressurized and shrank. Each whirlpool later became the core of a star.
- Most of the huge cloud gravitated to the center to form the core of the first sun.
- With the passing of time, the cores of stars begin to control their internal motion. This coupled with enormous pressure resulted in the concentration of some parts to the stellar core.
- Due to this enormous pressure, the temperature of the sun's core increased to about one million degrees Celsius and this resulted in nuclear reactions within the sun. This augmented its enormous temperature and made the surface of the sun appear brilliant yellow. It began to radiate light, which purified the atmosphere surrounding the stars. Therefore the Solar System began to take the type of form in which it is today.

Glorified is He Who says:

﴿ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائْتِيَا طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ﴾

"Then He Istawa (rose over) toward the heaven when it was smoke, and said to it and the Earth 'come both of you willingly or unwillingly.' They both said: 'We come, willingly.'" (Soorah Fussilat 41:11).

### Gravitation

He, Most High, says:

﴿خَلَقَ السَّمَوَاتِ بِغَيْرِ عَمَدٍ تَرَوْنَهَا﴾

"He has created the heavens without pillars, which you see..." (Soorah Luqman 31:10).

Some have interpreted this Verse to mean that Allah created the heavens without pillars. However, Allah did not say: "You see it without pillars", rather He said: ﴿بِغَيْرِ عَمَدٍ تَرَوْنَهَا﴾ "without pillars that you see" (or more closely; without visible pillars). So, the sighting which Allah spoke about is with reference to the pillar, but there is a support which we do not see. This is the gravitational support, which preserves the universe from collapsing.

### Day and Night

He says:

﴿يَكُونُ الْبَدُّ عَلَى النَّهَارِ وَيَكُونُ النَّهَارُ عَلَى الْبَدِّ﴾

"...He makes the night to go in the day and makes the day to go in the night..." (Soorah Az-Zumar 39:5).

In the Arabic language, "Takweer" (to go into) refers to the winding folds of the turban, and *Takweer* of the night upon the day and the day upon night draws our attention to a continuous circular motion. We have come to better understand this Verse in the light of the discovery of the Earth's rotation about itself, which results in night and day.

Cosmic space is naturally dark despite the presence of the sun and stars within it. Past researchers have discussed this fact and attempted to explain the miracle of the Noble Verses which mention clearly the darkness of cosmic space, the difference between brightness and light, the separation of night from day, and what the sight uncovers while ascending



Day and night on the earth



into the heavens. Anyone who ponders over the Verses of the Noble Qur'an is confronted with several facts:

1. The mentioning of night always precedes the mention of daytime in the Noble Qur'an: Qur'an 2 Verse 164 and 274, Qur'an 3 Verse 27 and 190, Qur'an 6 Verse 13 and 60, Qur'an 10 Verse 24 and 67, Qur'an 13 Verse 3 and 10, Qur'an 17 Verse 12, Qur'an 21 Verse 20 and 42, Qur'an 22 Verse 61, Qur'an 23 Verse 80, Qur'an 24 Verse 44, Qur'an 25 Verse 47, Qur'an 27 Verse 86, Qur'an 40 Verse 61, Qur'an 45 Verse 5, Qur'an 57 Verse 6, Qur'an 69 Verse 7, Qur'an 71 Verse 5, Qur'an 73 Verse 1, 7 and 20, Qur'an 78 Verse 10 and 11, Qur'an 79 Verse 29, and Qur'an 92 Verse 1 and 2.

2. The sun is also mentioned before the moon in the Noble Qur'an: Qur'an 12 Verse 4, Qur'an 22 Verse 18, Qur'an 29 Verse 61, Qur'an 55 Verse 5, and Qur'an 75 Verse 9.

3. Whenever the night, daytime, the sun and the moon are mentioned in the same thread of text, the mention of night necessarily precedes daytime and the mention of the sun precedes that of the moon. This is evident in twelve instances in the Noble Qur'an. Qur'an 7 Verse 54, Qur'an 10 Verse 5 and 6, Qur'an 13 Verse 2 and 3, Qur'an 14 Verse 33, Qur'an 16 Verse 12, Qur'an 21 Verse 33, Qur'an 25 Verse 61 and 62, Qur'an 31 Verse 29, Qur'an 35 Verse 13, Qur'an 36 Verse 37 and 40, Qur'an 39 Verse 5 and Qur'an 41 Verse 37 and 38.

An investigator comes to the conclusion that these Qur'anic facts are in perfect agreement with established scientific facts, which say that the universe is in a perpetual night. This is its natural essence. Within it is a bare star whose emanating light cannot be seen except when reflected by other diffuse celestial bodies. It is observed that the third fact is contrary to common logic (i.e. for the one who has no prior knowledge of the cosmos) which expects a definitive logical order of relationship of the night to the moon and the daytime with the sun. This is because these Verses are the words of the Truth – Honorable and Exalted is He – the Creator of all things.

The importance of knowing these facts is in order to contemplate the wisdom behind its conflict with six other Verses: Qur'an 11 Verse 114, Qur'an 17 Verse 78, Qur'an 20 Verse 130, Qur'an 93 Verse 1 and

2, Qur'an 71 Verse 16, Qur'an 6 Verse 96, Qur'an 91 Verse 1 and 4. Perhaps someone may discover fresh facts when he ponders over these Verses in the light of what has preceded them and Allah, the Exalted, knows best.

### Stellar orbits

Allah, Most High, says:

﴿لَا الشَّمْسُ يَنْبَغِي لَهَا أَنْ تُدْرِكَ الْقَمَرَ وَلَا اللَّيْلُ سَابِقُ النَّهَارِ وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"It is not for the sun to overtake the moon, does the night outstrip the day? They all float, each in an orbit." (Soorah Ya Seen 36:40).

Arabic linguists interpret the word "Falak" (orbit) as anything circular. Allah has mentioned the "sun and the moon" and the "night and day time", but what does the plural "Kullun" (they all) refer us to? Ar-Razi (one of the earliest Muslim scholars) says: It is not possible for us to say:

﴿وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"They all float, each in orbit."

Except that stars are inclusive so that the implication of the plural is established. Each of us knows the position of modern science that the stars and planets have orbits to which they are attached and will not float except on it.

### Expansion of the universe

During the late sixties, Hubble discovered that the universe was expanding and opening out confirming thereby the statement of Allah, Most High:

﴿وَأَنشَأْنَا بَيْنَهُمَا بَازِينَ وَإِنَّا لَمُوسِعُونَ﴾

"With power did We construct the heavens. Verily, We are able to extend the vastness of space thereof." (Soorah Adh-Dhaariyat 51:47).

The perplexed scientist, Einstein, who had proposed the theory of an established universe) and compelled him to keep visiting Hubble in his observatory so as to study this baffling revelation. Had they read the exegesis of Ibn Zayd concerning this Verse, they would have found that



it leads to part of this discovery. The language (employed in the Qur'an) is appropriate as it indicates a continuity, i.e. "We expanded the heavens", meaning - We are expanding it and We shall in future expand it. If you want to appreciate the vastness of the universe, just look up at the sky on a dark night and see the enormous number of stars in the universe.

### The Sun and the Moon follow fixed courses

Allah, Most High, says:

﴿الْقَمَرُ بِحُسْبَانٍ﴾

"The sun and the moon run on their fixed courses (exactly) calculated with measured stages for each (for reckoning etc)."  
(Soorah Ar-Rahman 55:5)



The Sun, Moon and Earth in Space

This Verse does not indicate the solar and lunar years as it appears to some; rather, it points to a tremendous miracle which has been discovered in science: that both the sun and the moon have heat, size and distance that is accurately established with respect to the Earth. Were the sun to expand its size a bit or come closer to the Earth, we would be set afire, and were it to shrink or move further away from the Earth, then we would freeze. If the moon were to expand a little or come closer, then we (on Earth) would be drowned due to flooding by the ocean and were it to shrink or move further away then the ocean would disappear from us.

Does not this indicate an accurate computation?

### Double sunrise and Double sunset

When we listen to statement of Allah, Most High:

﴿رَبُّ السَّمَوَاتِ وَالْأَرْضِ وَمَا بَيْنَهُمَا وَرَبُّ الْمَشْرِقِ﴾

"Lord of the heavens and of the Earth, and all that is between them, and Lord of every point of the sun's risings."  
(Soorah As-Saffat 37:5)

We realize that it talks about the Earth and its rotation, but does not consider the Earth alone, it also talks about the heavens. A star has been recently discovered which revolves about two suns (Alpha Centauri A and Alpha Centauri B). Every day, it has two sunrises and two sunsets.

### Information on Voyage to Space

Allah, Most High, says:

﴿وَلَوْ فَتَحْنَا عَلَيْهِمْ بَابًا مِّنَ السَّمَاءِ فَظَلُّوا فِيهِ يَعْرُجُونَ﴾

﴿لَقَالُوا إِنَّمَا سُكَّرَتْ أَبْصَارُنَا بَلْ عَمُّ قَوْمٌ مَّشْهُورُونَ﴾

"And even if we opened to them a gate from the heavens and they



Sunrise in Space



were to continue ascending thereto, they would surely say: 'Our eyes have been (as if) dazzled. Nay, we are a people bewitched.' (Soorah Al-Hijr 15:14-15)

This Verse discusses three important and amazing issues which require consideration before embarking on space exploration:

1. There is a specific window in the atmospheric envelope, which serves as a passage way for a space shuttle. This is what is indicated in the Qur'an with the mention of "a gate".

2. The word "Urooj" has two meanings: ascension and curve, and these are two conditions for the escape of a space shuttle from the atmospheric envelope.

3. After escaping from the atmospheric envelope, the shuttle encounters pitch darkness as though it has shut its eyes upon itself:

﴿شُكِرَتْ أَبْصَارُنَا﴾

"Our eyes have been (as if) dazzled."

#### The cleaving of the Moon

﴿اقْرَبَتِ السَّاعَةُ وَانْشَقَّ الْقَمَرُ﴾

"The hour has drawn near, and the moon has been left asunder."

During a televised interview with the Muslim geologist, professor Zougloul An-Najjar. The show presenter asked him about the verse:

﴿اقْرَبَتِ السَّاعَةُ وَانْشَقَّ الْقَمَرُ﴾

"The hour has drawn near and the moon has been left asunder."  
(Soorah Al-Qamar 54:1).

Does it contain a Qur'anic scientific wonder?

Dr. Zaghloul replied: "I have a story concerning this Verse: while I was attending a program at Cardiff University in western Britain, the gathering was a mixed one - Muslims and non-Muslims. There was a very lively discussion about scientific wonders of the Noble Qur'an.



Image published by space agencies of a clear cleft in the surface of the moon

During the discussion, a young Muslim stood up and said: Sir, do you consider the statement of Allah, Most High: "The Hour has drawn near, and the moon has been cleft asunder" as containing a scientific wonder from the Qur'an?

"I replied: No, because scientific wonders are explained by science (or explainable by science), but as for miracles, science cannot explain them. A miracle is a phenomenon which is contrary to the laws of nature. The splitting of the moon was a miracle that occurred to the Messenger of Allah, peace and blessings of Allah be upon him, confirming his being a Prophet and Messenger. Perceptible miracles are an evidence of truth upon those who witness them. Had it not been mentioned in the







﴿أَفَرَأَيْتِ السَّاعَةَ وَانْشَقَّ الْقَمَرَ﴾

"The hour has drawn near, and the moon has been left asunder."

I said (to myself): Is this a reasonable statement? Is it possible for the moon to cleave asunder and re-fuse together. What power (force) can achieve such? He (the young man) further said: This Verse dissuaded me from reading further and I became busy with other matters of life. However, Allah, Most High, prolonged my sincerity in the search for the truth. So, my Lord ordained that I sit to watch the British television. There was a discussion between the presenter and three notable American space scientists. The presenter was chiding the scientist over spending so much money on space voyages at a time when the Earth was engulfed in a myriad of problems: famine, poverty, disease and regression. He was saying: If this money was spent on the inhabitants of the Earth, then it would be more beneficial.

However, the scientists continued to defend their positions and said: This technology has applications in several aspects of life such as in medicine, manufacturing and agriculture. This is not wasted money; rather, it has assisted us in developing leading edge technologies. During the discussion came the news of the landing on the surface of the moon, the furthest space voyage ever. In terms of expenditure, it had cost more than a hundred billion (US) dollars. The show presenter exclaimed, What sort of madness is this? A hundred billion dollars just to plant an American flag on the surface of the moon? The (three scientists) said: No, the goal wasn't to plant an American flag on the surface of the moon, rather, we had been studying the internal structure of the moon and we discovered a fact, had we spent multiples of that amount to convince the world of our discovery, nobody would have believed us.

The presenter asked them: what was that fact (you discovered)? They replied: The moon once split into two and then re-fused together. The (presenter) asked: How did you know that? They replied: We found a band of metamorphosed rocks which penetrate the moon from

its surface to its center and then to the opposite surface. We consulted expert geologists about this and they said: It is not possible for this to have occurred except the moon had once split asunder and then re-fused together. The young man said: I sprang out of my chair and said: A miracle which occurred to Muhammad over one thousand four hundred years ago and Allah compelled America to spend more than one hundred billion dollars to prove it for the Muslims? This must be the true religion! He says: So I sat with the copy of the Qur'an and read *Soorah Al-Qamar* (Qur'an 54) and this was what led me to accept Islam."

#### How the Director of Tokyo observing in Japan accepted Islam

The story of the acceptance of Islam by one of the notable experts in the field of astronomy, Pruwsu Yushadju Karuzayu, the director of Tokyo Astronomical observatory in Japan is interesting and inspirational. This observatory is regarded as the second observatory (in ranking) in the world in terms of its infrastructure and equipment. Allah willed that he would visit Saudi Arabia and there occurred an opportunity for discussion with him at King Abdul Aziz University. A number of specialists in the fields of astronomy and geology were in attendance. Also in attendance were some Muslim scholars such as Az-Zindani. After presenting the Qur'anic concepts on astronomy and facts about the universe to the gathering and having understood it in-depth and thoroughly, and after Allah expanded his breast to faith, he did not hesitate to publish his dated note of affirmation (of the truth) written in his handwriting. Its translation is as follows:

"After arriving here, I discovered that the Qur'an contains numerous scientific facts. The universe and its contents are thoroughly explained and elucidated in the Qur'an, particularly the subtlest points in this universe ... in such a way that all things are now well-understood. I hereby declare my (acceptance of) Islam.



# Time

## between Science and the Qur'an

During a ring of educational activities of the Jam'iyyat ul-'Ijaz Al-'Ilmi li-Qur'an Was-Sunnah (Organization for Scientific Wonders of the Qur'an and Sunnah) in Cairo, a symposium was organized on the topic Time: Between Science and the Qur'an. Dr. Mansoor Hasabun-Nabiyy, head of the Society and Professor of Physics in the College of Botany, Aynush-Shams University, made a presentation. Early in the discussion, Hasabun-Nabiyy affirmed that the Noble Qur'an always opens up new frontiers of knowledge for contemplation and consideration. Doubtlessly, correct knowledge must necessarily lead to faith (in Allah). It is impossible for scientific facts and the Qur'an to conflict except when the scientist errs in his opinion (scientific theories) or the exegete wrongly interprets the Verses of the Qur'an.



He added that the Qur'an touches upon several scientific issues which include the creation of the universe, time and place (position); the Qur'an indicates that Allah created the universe in six days, but (the length) of days in Allah's reckoning are lengthy spells of time as understood from the earthly view of days. This is because time is relative. This is in consonance with the specific theory of relativity.

The significance of time to living things and even nonliving things is very great. Each one of us considers the evaluation (measurement) of time important: for instance, to count ages. There are several natural phenomena like coral reefs and radioactive materials such as radium and uranium that decay by losing weight to become lead. For every radioactive element, there is a definite decay pattern. Scientists have employed some of these radioactive materials such as uranium and carbon-14 to determine the age of the Earth and life upon the Earth. This is similar to the use of the expansion of the universe to determine the age of the universe.

Dr. Hasabun-Nabiyy presented the issue of the age of the universe as a proof of the existence of Allah. For as long as the universe has a definite beginning in terms of time, then it necessarily must have been brought into existence. It is impossible for it to have originated itself. The Noble Qur'an has explicitly invited man to research about the beginning of the universe and the origin of creation. Allah, Glorified is He, says:

﴿قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ ثُمَّ اللَّهُ يُنْفِثُ الْبَرْقَ الْأَخِيرَ إِنَّ اللَّهَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ﴾

"Say: 'Travel in the land and see how (Allah originated creation), and then Allah will bring forth (resurrect) the creation of the hereafter (i.e. resurrection after death). Verily, Allah is Able to do all things.'" (Soorah Al-Ankaboot 29:20).

We can derive from this Verse several important indications: that voyaging in the Earth would inform us about the origin of the universe. Use of the language "voyage in the Earth" not "voyage on the earth" point us to investigation of the geological layers of the Earth so as to

understand the origin of the Earth and its botanical and animal life and the origin of life in all the forms that exist in the universe.

The Qur'an has mentioned in several of its Verses that Allah created the universe in six days. For example, He says:

﴿وَلَقَدْ خَلَقْنَا السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا فِي سِتَّةِ أَيَّامٍ وَمَا مَسَّا مِنْ تَلَابُثٍ﴾

"And indeed We created the heaven and Earth and all between them in six days and nothing of fatigue touched us." (Soorah Qaf 50:38).

What is intended by "days" here are the periods or long stretches of time used for the creation of the universe and not days as we mankind (on Earth) evaluate them. The proof of this is that the day was never described as "of which you reckon" in any of the Verse which talks about the six days in which the heaven and Earth were created. As an example, Allah, the Exalted, says:

﴿وَهُوَ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ فِي سِتَّةِ أَيَّامٍ﴾

"And He it is Who has created the heaven and the Earth in six days..." (Soorah Hood 10:7).

Also, He says:

﴿اللَّهُ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا فِي سِتَّةِ أَيَّامٍ ثُمَّ اسْتَوَى عَلَى الْعَرْشِ مَا لَكُمْ مِنْ دُونِهِ مِنْ وَلِيٍّ وَلَا شَفِيعٍ أَفَلَا تَتَذَكَّرُونَ ﴿١﴾ يُدِيرُ الْأَمْرَ مِنْ شَاءِ السَّمَاءِ إِلَى الْأَرْضِ ثُمَّ يَعْرُجُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ أَلْفَ سَنَةٍ مِمَّا تَعُدُّونَ﴾

"Allah it is Who has created the heaven and the Earth, and all that is in between them in six days. Then He Istawa (rose over) the Throne (in a manner that suits His Majesty). You (mankind) have none besides Him as a Wali (protector or helper, etc.) or an intercessor. Will you not then remember (or be admonished)? He arranges (every) affairs from the heaven to the Earth, then it (affairs) will go up to Him, in one day, the space where is a thousand years of your reckoning (i.e. reckoning of our present world's time)." (Soorah As-Sajda 32:4-5)

The scholars of Tafseer agree that the six days of creation are divided into 3 equal periods, each equivalent to two days of creation speaking in terms of relative time.



**First:** Two days for the creation of the Earth from an initial smoky (hazy) heaven. Allah, Most High, says:

﴿خَلَقَ الْأَرْضَ فِي يَوْمَيْنِ﴾

"(He) created the Earth in two days." (Soorah Fussilat 41:9).

He also says:

﴿أَوَلَمْ يَرِ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتَا رَتْقًا فَفَلَقْنَهُمَا وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ﴾

"Have not those who disbelieve known that the heavens and the Earth were joined together as one united piece, then We parted them? And We have made from water every living thing. Will they not then believe?" (Soorah Anbiya' 21:30)

This is clear evidence that the heavens and the Earth once belonged to a single universe, "Ratqan" (one united piece) then it exploded "Fafataqnahuma" (then we parted them).

**Secondly:** Two days for setting out the heaven in seven heavens in equal layers. Allah says:

﴿فَقَضَّاهُنَّ سَبْعَ سَمَوَاتٍ فِي يَوْمَيْنِ وَأَوْحَىٰ فِي كُلِّ سَمَاءٍ أَمْرَهَا﴾

"Then he completed and finished their creation (as) seven heavens in two days and he made in each heaven its affairs..." (Soorah Fussilat 41:12)

He (Allah) is referring to the initial smoky (hazy) nature of the heavens:

﴿ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ فَقَالَ لَهَا وَلِلْأَرْضِ ائِنِي طَوْعًا أَوْ كَرْهًا قَالَتَا أَتَيْنَا طَائِعِينَ﴾

"Then He Istawa (rose over) toward the heavens when it was smoke and said to it and to the Earth: 'come both of you willingly or unwillingly.' They both said: 'We come, willingly.'" (Soorah Fussilat 41:11).

This was after its explosion in two days, after which the shape of the heavens began to form. "Then He completed and finished their creation..."

i.e. fashioned them and invented them as seven heavens in a period spanning another two days.

**Thirdly:** Two days for organizing the Earth geologically and making it habitable for man. The Glorified says:

﴿وَجَعَلَ فِيهَا رُوسٍ مِنْ قَوْفِهَا وَبَرَكَ فِيهَا وَقَدَّرَ فِيهَا أَقْوَاتًا فِي أَرْبَعَةِ أَيَّامٍ سَوَاءً لِمُسْأَلِينَ﴾

"He placed therein (i.e. the Earth) firm mountains from above it, and He blessed it, and measured there in its sustenance (for its dwellers) in four days equal (i.e. all these four 'days' were equal in length of time), for all those who ask (about its creation)." (Soorah Fussilat 41:10).

He (Allah) is referring to meteoric mountains, which fell onto the Earth's surface and became cemented in the beginning (of the formation of the universe), its creation was instantaneous. This is evidenced in the statement of Allah, Most High: "...from above it..." and "He blessed it," i.e. He made abundant the benefits of the things He made therein such as the water, plants and livestock:

﴿أَخْرَجَ مِنْهَا مَاءَهَا وَمَرْعَهَا﴾

"And brought forth therefrom its water and its pasture." (Soorah An-Naziat 79:31).

"And He measured therein its sustenance (for its dwellers)..." i.e. He provided for its dwellers their sustenance by creating therein rivers, trees and animals in preparation for the advent of man "... In four days equal (in time) for all those who ask (about its creation)," i.e. in four days without increase nor decrease as information for those who ask amongst mankind.

Dr. Hasabun-Nabiyy explained that scientists had achieved - using the radioactive decay of uranium to lead, an estimation of the age of the Earth's rocks and that of meteors: they estimated that the formation of the Earth's crust commenced 4.5 billion years ago and that this is



also the age by the moon's rocks. They have also recently successfully used carbon dating to estimate the age of plant and animal fossils to estimate life on Earth. Therefore, the Earth began forming 4500 million years ago and man appeared much later, after Allah had organized the whole Earth.

﴿هَلْ أَتَى عَلَى الْإِنْسَانِ مِنْ نَجْدٍ لَمْ يَكُنْ شَيْئًا مَذْكُورًا﴾

"Has there not been over man a period of time, when he was nothing to mention?" (Soorah Insan 76:1).

Science has confirmed that man appeared upon the Earth's surface a few tens of thousands of years ago without indicating a definite limit. It is possible to infer that the differentiation of the geology of the Earth commenced with the anchoring of the meteoric mountains on its solid crust, the springing forth of water and air from within the Earth and the succession of several plant and animal kingdoms until man arrived. This period lasted a stretch of time approximately 4.5 billion years.

The Qur'an in Soorah Fussilat(41), points out that this period is equivalent to a third of the universe. Since the geologic organization of the Earth beginning with the solidification of its crust till the appearance of man has lasted 4.5 billion years, it is possible to calculate the age of the universe from the perspective of the Qur'an by multiplying the geologic period by three (since the creation of the universe – according to the Qur'an- was in 3 equal stages) with each stage being equivalent to two days (relative time). Therefore, the universe is about 13.5 billion years old.

Dr. Hasabun-Nabiyy mentioned that science as of today is yet to arrive at (the explanation of) these six stages of creation of the universe. Research is rather concerned with estimating the age of universe with reference to the great explosion known in astronomical physics as the "Big Bang". Scientists have computed the age of the universe using various means and have arrived at several estimates. Some scientists have computed the age of the universe using the expansion of the universe and the rate of decrease in redness as 10 to 18 billion years. Others computed it using two different nuclear methods and concluded that the age of the universe is 13 or 15 billion years.

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Aurora blue

## Polar flare

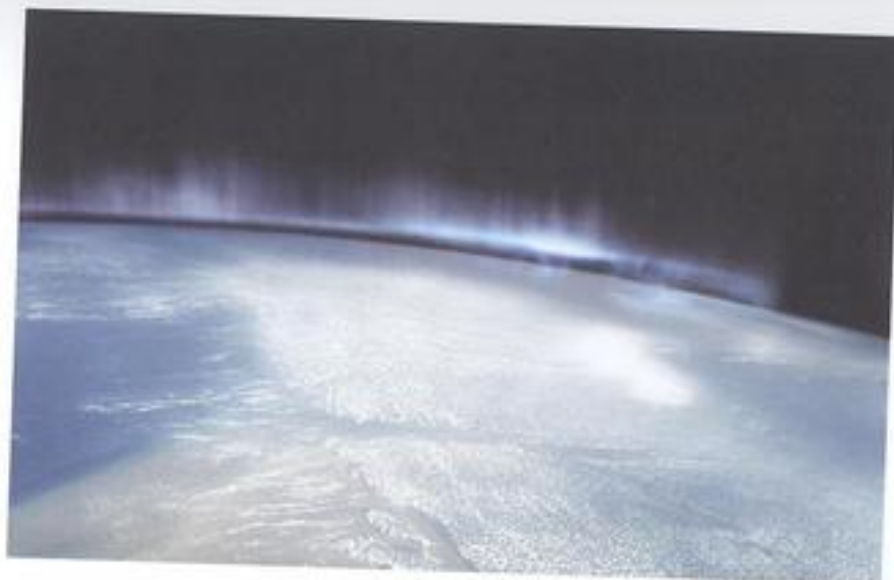
With light energy appearing from the middle of the sky in the night, darkness is dispersed due to the luminous bright captivating light. This natural phenomenon usually appears between latitudes 40° north and 40° south.

Among the favors of Allah upon mankind is that, whenever some of these destructive natural radiations approach the surface of the Earth as showers, the stationary elevated objects on Earth work successively to dissipate these charges. Otherwise, there would be widespread lightning strikes and fires. In fact, all things on the



Jupiter\_aurora





Aurora Borealis From Space

Earth serve as means to prevent this like the domes (of minarets), tall buildings, lightning conductors, the sails of ships and trees, etc. Usually, this phenomenon appears as a glare, which is visible when it is dark and results in amazing illusions. It is also called St. Elmo's fire after the person who first discovered it. What was previously known was that within clouds, there was friction which resulted in lightning discharges, however, recent discoveries disprove this. The present understanding is that the higher clouds (cumulus clouds) contain opposite charges. When there is no air (an insulator) to isolate the two, a discharge occurs in the form of lightning. This results in rapid expansion of the atmosphere. This phenomenon is what the Qur'an refers to in *Soorah An-Noor* (Qur'an 24):

﴿أَلَمْ تَرَ أَنَّ اللَّهَ يُسَوِّدُ سَحَابًا ثُمَّ يُؤَلِّفُ بَيْنَهُمْ فَيُجْمَعُهُمْ فَكَأَنَّهُمْ قُلُوبٌ مِّنْ عِصْيَانٍ ثُمَّ يَرْفَعُهُمْ فَتُقَادُ مِنْهُمَا صَوَابٌ مِّمَّا يَرْفَعُونَ ۚ﴾

"See you not that Allah drives the clouds gently, then joins them together, then makes them into a heap of layers and you see the rain comes forth from between them. And He sends down from the sky hail (like) mountains, (or there are in the heaven mountains of

hail from where He sends down hail), and strike therewith whom He will, and averts it from whom He wills. The vivid flash of its (clouds) lightning nearly blinds the sight." (*Soorah An-Noor* 24:43)

As for thunder, then it is nothing but the sound of expanding air. Whenever, the discharge occurs between the clouds and high relief of the Earth it is known as a thunderbolt and it could kill whoever it hits. Allah, Most High, says:

﴿إِنَّا زَيَّنَّا السَّمَاءَ الدُّنْيَا بِزِينَةِ الْكَوْكَبِ ۖ وَحِفْظًا مِّن كُلِّ شَيْطَانٍ مَّارِدٍ﴾

"Verily! We have adorned the near heaven with the stars (for beauty). And to guard against every rebellious devil." (*Soorah As-Saffat* 37:6-7)

The atmospheric envelope of the sun is made up of charged particles – protons and electrons. These occur in space as solar wind. However, the magnetic field of the Earth (which is very strong) deflects it and concentrates it at the magnetic poles of the Earth. Their collision with earthly oxygen and nitrogen molecules results in red, green and blue light known as Aurora.



Northern Lights-Aurora Forecast

The Aurora appears at a distance of about seventy miles or more above the Earth's surface in the outer atmosphere. This (Aurora) can be viewed from very high altitudes.

This is how the magnetic field of the Earth's atmosphere protects the Earth from harmful solar particles.

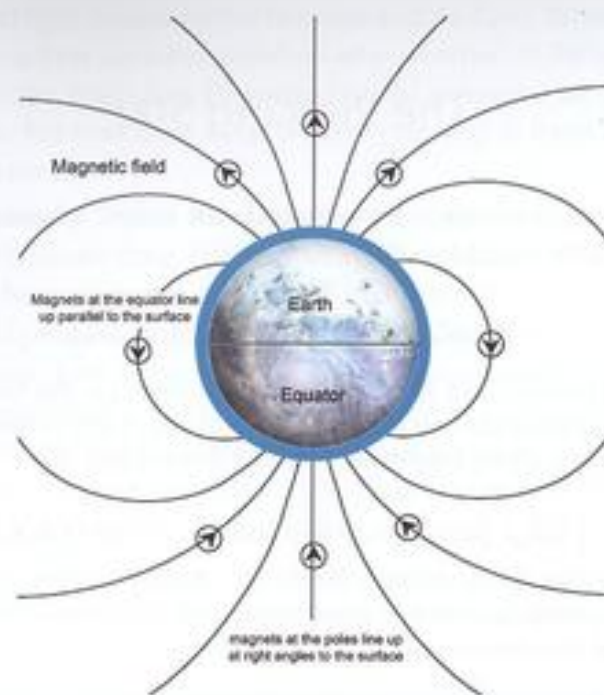
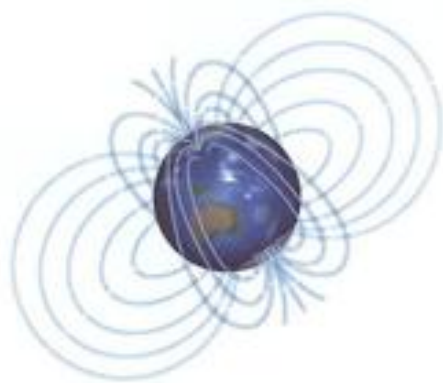


## The Protector is Allah

The Earth is protected by its magnetic field, which serves to deflect cosmic rays coming from the universe and solar flares from tremendous solar outbursts. The Earth's magnetic field deflects and makes electric charges to rise and revolve at great heights of up to four thousand kilometers or more, in a charged belt known as the Van Allen Belt (named after its discoverer in 1958). Had it not been for this protection, which Allah ordained, then such electric charges would have rained incendiary thunderbolts upon us leaving nothing behind on the Earth's surface. See the Signs of Allah's Mercy upon us, how He ordained that we be protected. For each of the two (the electric charges and magnetic field) there is an order, and everything before Him (Allah) has a measure. From this we appreciate His words:

﴿لَهُ مُعَقِّبَاتٌ مِنْ بَيْنِ يَدَيْهِ وَمِنْ خَلْفِهِ يَحْفَظُونَهُ مِنْ أَمْرِ اللَّهِ إِنَّ اللَّهَ لَا يُغَيِّرُ مَا يَقْوِمُ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ وَإِذَا أَرَادَ اللَّهُ يَقْوِمَ شَيْئًا فَلَا مَرَدَّ لَهُ وَمَا لَهُمْ مِنْ دُونِهِ مِنْ وَالٍ﴾

"For each (person), there are angels in succession, before and behind him. They guard him by the command of Allah. Verily, Allah will not change the good condition of a people as long as they do not change their state of goodness themselves (by committing sins and by being ungrateful and disobedient to Allah). But when Allah wills a people's punishment, there can be no turning back of it, and they will find besides Him no protector." (Soorah Ar-Ra'd 13:11).



The context of the Verse indicates that the protection is from the order of Allah to serve some other purpose. This is because the verse was revealed in context to what precedes it and what succeeds (in the Qur'an). Read the statement of Allah, Most High:

﴿هُوَ الَّذِي يُرِيكُمْ الْبَرْقَ خَوْفًا وَمَتَمَعًا وَمُنِيرُ السَّحَابِ أَلَيْسَ ۚ  
وَفَسِيحُ الرِّعْدِ بِحَمْدِهِ. وَالْمَلَكُوتُ مِنْ خِيفَتِهِ. وَيُرْسِلُ الرِّسَالَةَ  
فَيُجِيبُ بِهَا مَنْ يَشَاءُ وَهُمْ يُجَادِلُونَ فِي اللَّهِ وَهُوَ شَدِيدُ الْحَالِ﴾

"It is He Who shows you the lightning, as a fear (for travelers) and as hope (for those who wait for rain). And it is He Who brings up (or originates) the clouds, heavy (with water). And Ar-Ra'd (thunder) glorifies and praises Him, and so do the angels because of His Awe, He sends the thunderbolts and therewith He strikes whom He wills, yet they (disbelievers) dispute about Allah. And He is Almighty in strength and severe in punishment." (Soorah Ar-Ra'd 13:12-13).



## The Piercing Star

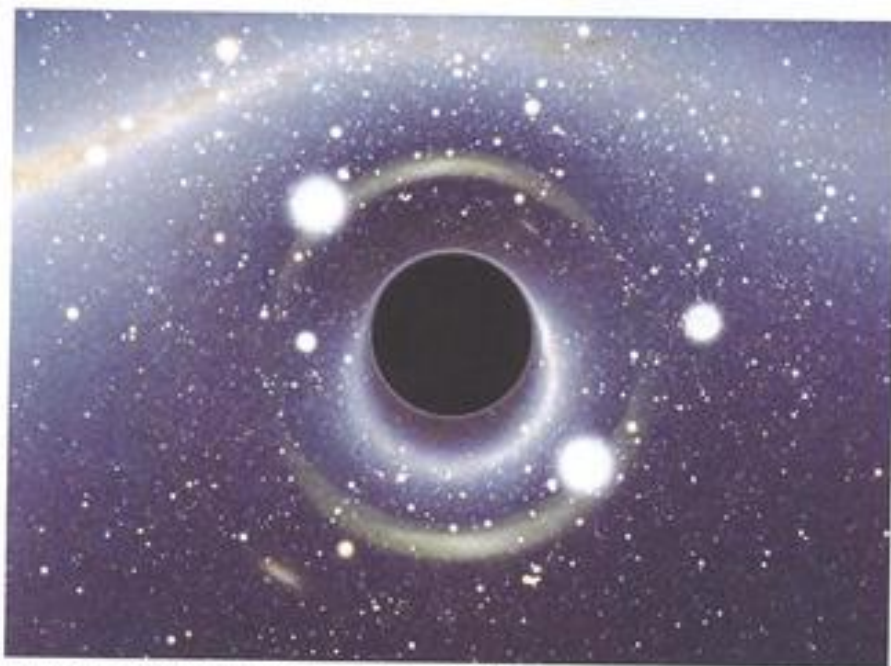
The Creator swears with a magnificent cosmic phenomenon. He, Glorious is He, and Most High, says:

﴿وَاللَّيْلِ وَالنَّجْمِ ۖ وَتَاٰذِیْنَكَ مَا الْاَطَارِقُ ۝۱ اَلَمْ نَجْعَلِ الْاَقْلَامَ ۝۲﴾

"By the heaven, and At-Tariq (the night-comer, i.e. the bright star); And what will make you to know what At-Tariq (night-comer) is? (It is) the star of piercing brightness." (Soorah At-Tariq 86:1-3).

﴿وَالنَّجْمِ اِذَا هَوٰی ۝۱ مَا حَسَلَ صَاحِبُکُمْ وَمَا عَوٰی ۝۲ وَمَا یَطِیْقُ عَنِ الْهَوٰی ۝۳﴾

"By the star when it goes down (or vanishes). Your companion (Muhammad) has neither gone astray nor has erred. Nor does he speak of (his own) desire." (Soorah An-Najm 53:1-3).



The piercing star describes the matter of star condensed in singularity and the hole of empty space caused by this condensed matter

He, Most High, swears by the heavens and *At-Tariq*. Whoever hears this oath on a first occasion wonders who or what *At-Tariq* refers to. This is why the High and Powerful (Allah) informed us that it is a piercing star. But how does a star become piercing? Is there a scientific explanation for this?

The scholars of *Tafseer* have interpreted stellar radiation as being piercing and penetrating but regarding the attribute of *At-Tariq*, it has hardly been explored. The second oath has to do with another astronomical phenomenon: the dropping (vanishing) star. It is necessary to differentiate here between this and the phenomenon of meteors, which is considered a daily phenomenon since it occurs frequently. Meteors enter the Earth's atmospheric envelope daily and then burn off when their temperature rises due to friction between them and the atmospheric air. Very few of them fall to the Earth.

Had the Creator willed to swear by the meteor He would have done so. The meteor is mentioned more than once in the Qur'an:

﴿اِلَّا مَن خَلِیْفَ لِّقُلُوبِهِ فَاَتْبَعَهُ شِهَابٌ مُّبِیْنٌ ۝۱﴾

"Except such as snatch away something by stealing and they are pursued by a flaming fire of piercing brightness." (Soorah As-Saffat 37:10).

﴿وَاِنَّا لَنَسُوْا اَلْاَنۡسَۃَ فَوَجَدْنَهَا مِیۡتَۃً حَرَمًا شَدِیۡدًا وَّشٰٓئِبًا ۝۱﴾

"And we have sought to reach the heaven, but found it filled with stern guards and flaming fires." (Soorah Al-Jinn 72:8).

Allah, Glorified is He, did not swear by the phenomenon of a falling star but swore by the phenomenon of the dropping (vanishing) star. Why?

The mass of neutron stars is roughly 4.1 times the mass of the sun. Initially, when a star begins to collapse upon itself, it shrinks rapidly and the pressure upon its atoms increases. The atoms break down to form an electronic fluid that becomes denser (thickens) and becomes unable to bear the pressure due to the weight of the star and its gravitational pull. The result is that the gravity of the star, crushes (breaks down)



the electronic fluid just as it crushed the envelope of the atoms and the collapse of the gigantic redness (as it is called) upon itself continues.

The electrons join with protons and fuse to form new neutrons. The strata of the star then begin to collapse from the force of the stars weight which smashes everything in front of it. Eventually, each electron unites with a proton such that the star becomes essentially a pressurized neutron without any space between. The density increase to such a numerical measure that is difficult to imagine. The gigantic redness therefore shrinks to what is known as a Pulsar (Neutron star), a sphere the size of a football weighing up to fifty thousand billion tons. Were this to be placed upon the Earth or any other celestial body, the surface of the Earth or of that celestial body would not be able to support this tremendous weight and the ball will fall through the Earth or celestial body leaving behind it a hole equivalent to its size.

The story of the discovery of pulsars (neutron stars) is an interesting one. In 1968, an American student picked up radio signals from beyond the Earth using a new instrument known as the radio telescope. It is an instrument capable of picking up radio signals from deep within space and great distances of up to millions of light years away.

In the early seventies, astronomers were able to observe several stars, all of which shared the quality of emitting uniform (periodic) radio signals. Observed in details, the radio signals came as intermittent signals: (Beep.... Beep.... Beep). Each signal lasted fractions of a second and repeated itself every second or more.

It is possible to generalize stars that emit these (radio) signals as pulsating stars (*At-Najmu* (the star), *At-Tariq* (the night-comer), *Ath-Thaqib* (the piercing). It is one of the signs of Allah which He, Glorified is He, swore by:

﴿وَالنَّجْمِ الثَّاقِبِ ۝ وَمَا أَدْرَاكَ مَا الطَّارِقُ ۝﴾

"By the heaven, and At-Tariq (the night-comer, i.e. the bright star); and what will make you to know what At-Tariq is? (It is) the star of piercing brightness." (*Soorah At-Tariq* 86:1-3).

*At-Tariq* is a celestial body with two characteristics: It is a star and it is piercing. Were these qualities used to evaluate celestial bodies, it would be observed that pulsars (neutron stars) embody all these qualities -

star, night-comer and piercing. It has regular pulses and taps. The *Tariq* emanates regular intermittent taps (tick...tick...tick), which is very similar to the beeps, which the radio signals have captured emanating from the pulsars (neutron stars). Astronomers have concluded that a star emits very fast pulses due to the speed of its rotation and the speed of its energy. Also, an old pulsar has a very low frequency signal (it emits signals in a long period of time). This happens when its energy wanes and its speed of rotation diminishes.

Glorified is Allah who characterized this star with tremendous density and swore by it. The significance of an oath informs us of the significance of the object of the oath. The density of a pulsar is the highest density known (to man) and its weight is greater than that of the Earth



An imaginary picture for a neutron star that emits the most powerful piercing radiation ever discovered till now

despite its (relatively small) size. Now, let us picture what would happen to the Earth or to any celestial body were this star (pulsar) to be placed upon it or were it to collide with it. No celestial body can withstand a collision with it, not even the sun; the reason being its dreadful density. Astronomers have estimated the number of pulsars in our galaxy at about one hundred thousand. Naturally, it would be expected that the other billions of galaxies would also contain hundreds of thousands of pulsars.

So if the heavens are filled with pulsars, therefore, Allah, Glorified is He, employs this oath by way of emphasis:

﴿إِنْ كُلُّ نَفْسٍ لَّمَّا عَلَيْهَا حَافِظٌ ۝﴾

"There is no human being but has a protector over him (or her) (i.e. angels in charge of each human being guarding him, writing his



good and bad deeds, etc).” (Soorah At-Tariq 86:4).

Thus, the affairs of every soul are entrusted to a protector who watches and is in charge and protects it.

Glorified is Allah, there is a similitude between the protector and *At-Tariq*. We find a new and lively image of Qur’anic marvel. Describing the pulsar (a recently discovered phenomenon) in such detail employing such few words as can be counted on the fingers of a hand (star, night-comer, piercing) could not have originated except from the Creator of the universe. If man, however in-depth his knowledge were to attempt a definition or description of a pulsar, he would require lines (of writing) and several sheets to describe it.

After Allah our Protector, Glorified is He, informed us about and swore by this star (pulsar), He returns to (the matter of) the soul of mankind and reminds us of the protector entrusted by the All-Protecting, Ever Watchful over each soul to enumerate what is in its favor and that against it (i.e. its good and bad deeds), even its (soul’s) palpitations.

What similarity between the watchful protector who enumerates everything: small or big in extreme detail and *At-Tariq* whose details traverse the breath of the heavens to reach us in extreme detail. And the All-Protecting Ever-Watchful (Allah) upon whom none of the secrets of man’s soul is hidden. Glorified be your Lord, the Lord of Honor and Power! (He is free) from what they attribute unto Him! Peace be upon the Messengers and all the praise and thanks be to Allah, Lord of the Worlds (mankind, Jinn and all that exist).

(Aayaat ul-Qur’aaniyyah fee Mishkaa il-Silm: Dr. Yahya Al-Mahjaree)



The Brightest Star in the Night

## The Lord of Sirius

When we observe the Sirius which has a right ascension, a star about fifty trillion (50,000,000,000,000) miles away from us, we see it as it was nine years ago. This is because its light travels at a speed that reaches us in about eight years. If we assume there was some intelligent life form close to the Sirius which has a right ascension observing our sun, it would see it as one of many tiny luminous and brilliant spots, just as any star. When astronomers look through their telescopes, which penetrate into the universe, they are observing events of billions of light years away. For each of the luminous radiations which reach their instruments, there is an age, which it indicates. It is possible for it to have originated a thousand years or more or less ago.

Therefore, astronomical observations are observations of the past and not of the present. From that, the theory of Relativity is established. This theory has been projected to several areas. It states: Everything



is in motion and it carries its age with it and time is linked with everything in motion and it has its time (of association). The rocket is faster than a plane and the plane is faster than a train and so on.

How then do we understand the phenomena out there when stars could be as far as millions of billions of light miles away? It truly is a wonder that the heavens (space) transmit information regarding us without intelligent life on

it. The atoms themselves transmit its messages and communicate to us what occurs to it due to the influences of pressure or temperature or movement. Whenever, the atoms react to influencing (factors), its electrons vibrate in every direction of the universe. Thus the heavens (space) transmit information about itself saying that there is a Tremendous Power in this expansive universe.

Definitely, we have taken from it a part and several others remain which we are yet to discover from our research. This is from Allah's creation, from His Mercy and Power, which are infinite. Allah - the most High - says:

﴿وَلَوْ أَنَّمَا فِي الْأَرْضِ مِنْ شَجَرَةٍ أَقْلَمٌ وَالْبَحْرُ يَمْدُّهُ مِنْ بَعْدِهِ  
سَبْعَةُ أَبْحُرٍ مَا نَفِدَتْ كَلِمَاتُ اللَّهِ إِنَّ اللَّهَ عَزِيزٌ حَكِيمٌ﴾

"And if all the trees on the Earth were pens and the sea (were ink wherewith to write), with seven seas behind it to add to its (supply),



Close-up\_of\_Sirius

yet the Words of Allah would not be exhausted. Verily, Allah is Almighty, All-Wise." (Soorah Luqman 31:27).

For every piece of information there is a specific wave (with definite amplitude, phase and frequency). Whenever atoms respond to influences, they vibrate at specific frequency/amplitude and emit electromagnetic waves from its inner shells in all directions in space. The waves travel in space at the speed of light. It is within our capacity to translate these electromagnetic waves into a language we can comprehend just as light radiation detectors have been able to. And Allah says:

﴿قُلْ هَلْ يَسْتَوِي الَّذِينَ يَعْلَمُونَ وَالَّذِينَ لَا يَعْلَمُونَ﴾

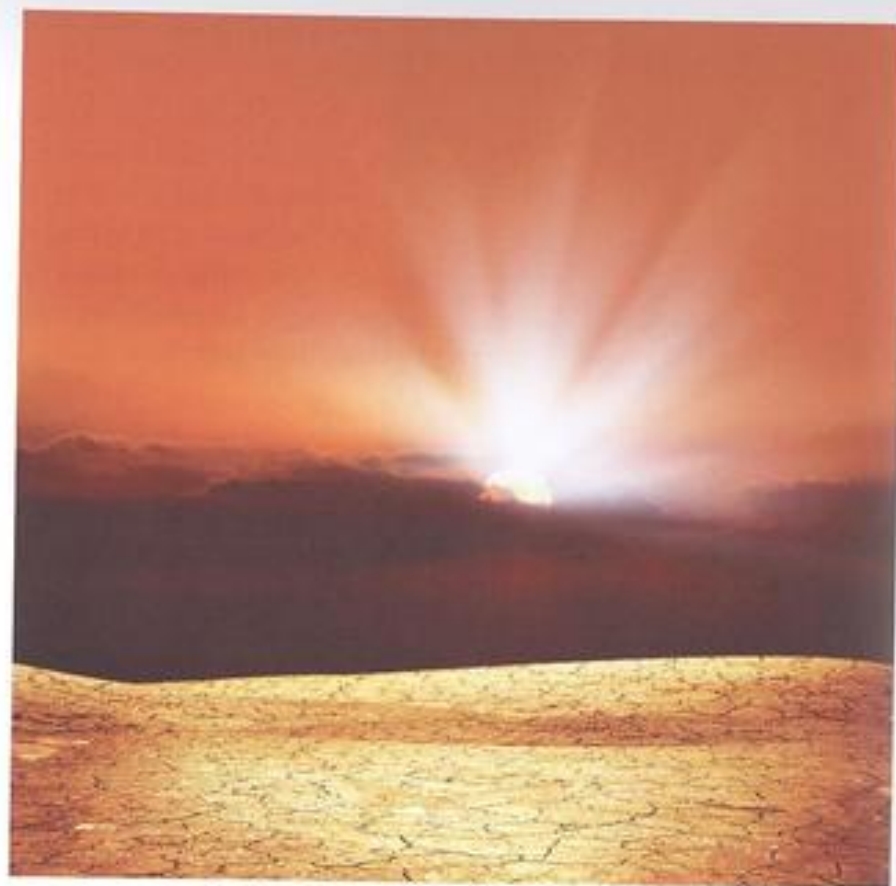
"Say: Are those who know equal to those who know not?" (Soorah Az-Zumar 39:9).

So, what is more marvelous than the universe in which we live? The Qur'an points to these phenomena in more than one Verse, some of which have been mentioned above.

(A Muslim Astronomer).







## The Easts and the Wests

A phenomenon known since the birth of the sun and the Earth is that of *Ash-Shurooq* (sunrise) and *Al-Ghuroob* (sunset). It is mentioned in the Qur'an in three different form and contexts. Allah, Most High, says:

﴿رَبُّ الشَّرْقَيْنِ وَالْمَغْرِبَيْنِ لَا إِلَهَ إِلَّا هُوَ فَاعْبُدْهُ وَكَيلًا﴾

"(He Alone is) the Lord of the East and the West. La ilaha illa Huwa (none has the right to be worshipped but He). So take Him Alone as Wakil (Disposer of your Affairs)." (Soorah Al-Muzzammil 73:9).

﴿رَبُّ الشَّرْقَيْنِ وَالْمَغْرِبَيْنِ﴾

"(He is) the Lord of the two Easts (places of sunrise during early summer and early winter) and the Lord of the two Wests (places of sunset during early summer and early winter)" (Soorah Ar-Rahman 55:17).

He also says:

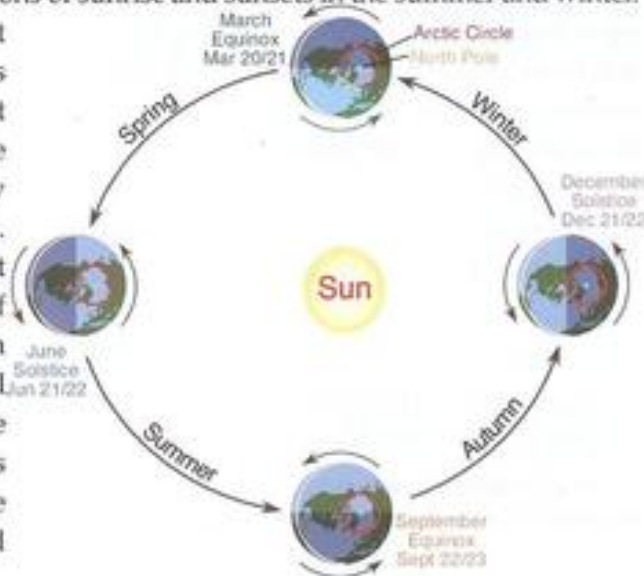
﴿وَلَا أَقْسِمُ بِرَبِّ الْمَشَارِقِ وَالْمَغَارِبِ إِنَّهُ لَغَوْرٌ ﴿١٠﴾ مَا لَنْ نَبْدُلَهُمْ خَيْرًا مِنْهُمْ وَمَا لَنْ نَسْتَوْفِيَهُ﴾

"So I swear by the Lord of all (the three hundred and sixty) points of sunrise and sunset in the East and the West that surely We are Able to replace them by (others) better than them; and We are not to be outrun." (Soorah Al-Ma'arij 70:40-41)

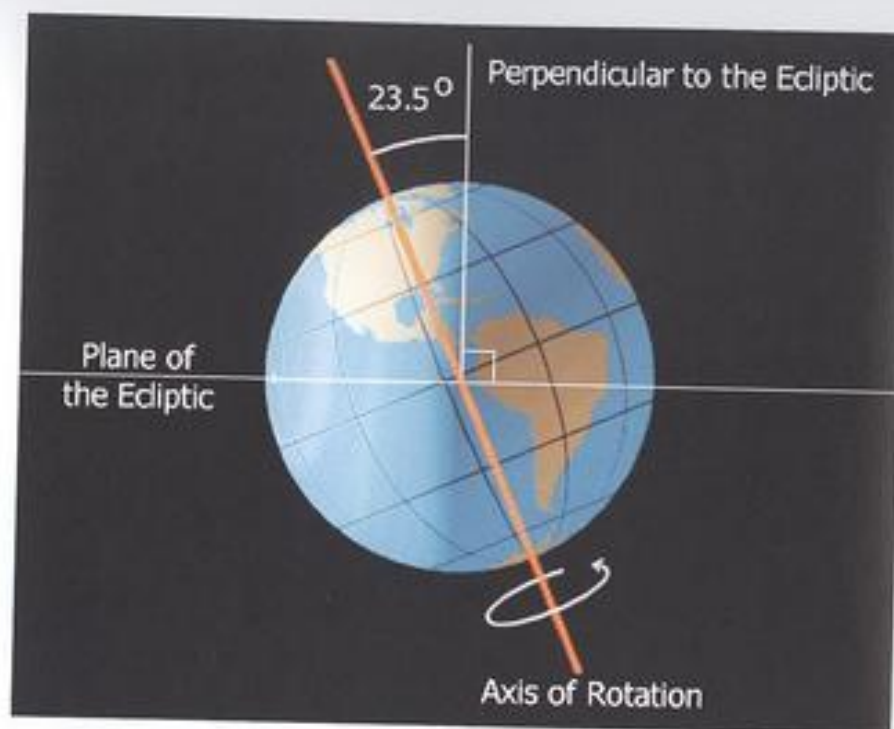
In the first Verse, the east and the west are mentioned in singular form, in the second (Verse) they are mentioned in dual form, and in the third (Verse) in plural form. Why the variation in contexts and where are all these Easts and Wests?

Understanding the singular context presents no difficulty. Wherever we are, we observe a position of sunrise and a position of sunset for the sun. As for two Easts and two Wests, the scholars of *Tafseer* have interpreted it to mean the positions of sunrise and sunsets in the summer and winter.

We all know that the Earth completes its revolution about the sun in three hundred and sixty and a quarter days. We also know that the declination of its axis of rotation from its principal axis results in the different seasons and therefore different times and







positions of sunrise and sunset throughout the year.

In reality, East (place of sunrise) and the West (place of sunset) are upon the Earth and change slightly every day, i.e., the sun, rises and sets from a different place every day as the year rolls by. Thus, by this rotation, there are several Easts (places of sunrise) and Wests (places of sunset) equal to the number of days in a year and not just two Easts and two Wests. The clearest distinction of the places of sunrise and sunset occurs between the periods of summer and winter. Thus these places would be what is referred to in:

﴿رَبُّ الشَّرْقَيْنِ وَرَبُّ الْغَرْبَيْنِ﴾

"He is the Lord of the two Easts... and the two Wests..."  
(Soorah Ar-Rahman 55:17).

So also the several Easts and Wests which we observe throughout the year is what is referred to in the third Verse:

﴿رَبِّ الْمَشْرِقِ وَالْمَغْرِبِ﴾

"So I swear by the Lord of all (the 360) points of sunrise and sunset in the East and the West..." (Al-Ma'arij 70:40)

It is also possible that what the several Easts and Wests of the Earth refer to, are with regards to different places upon the Earth's surface. The rising and setting of a sun is a continuous process. At any time, the sun rises upon a place and sets upon another. It is also possible that the Easts and the Wests refer to its sunrises and sunsets with respect to the stars of different

solar clusters; each star as though it were the Earth, the sun rises and sets over it. These are various interpretations of the several Easts and West and the two Easts and Wests. What remains, if we are to understand the reason for mentioning the east and the west in different contexts?



This becomes most clear when we recite the cited Verses along with those preceding them in the Qur'an, contemplating and scrutinizing its meaning. The context of the first Verse begins as:

﴿وَاذْكُرْ اسْمَ رَبِّكَ وَتَقَرَّبْ إِلَيْهِ تَتَّبِعُوا ۝ رَبُّ الْمَشْرِقِ وَالْمَغْرِبِ لَا إِلَهَ إِلَّا هُوَ فَاتَّخِذْهُ وَكِيلًا﴾

"And remember the name of your Lord and devote yourself to Him with a complete devotion. (He Alone is) the Lord of the East and the West. La ilaha illa Huwa (none has the right to be worshipped but He). So take Him Alone as Wakil (Disposer of your affairs)." (Soorah Al-Muzammil 73:8-9).



We observe that the mention of the East and West here is closely related to the mention of Allah's name. Allah commands His Messenger, peace and blessings be upon him, to remember the name of his Lord and to be in complete devotion to Him. Complete devotion here means turning toward Allah, Alone, in worship and sincerity accompanied by humility and remembrance. The Beneficent (Allah) has no partner, nor son; this is emphasized in the second part of the context:

﴿لَا إِلَهَ إِلَّا هُوَ فَاتَّخِذْهُ وَكِيلًا﴾

"La ilaha illa Huwa (none has the right to be worshipped but He) so take Him Alone as Wakil (Disposer of your affairs)" (Soorah Al-Muzzammil 73:9).

In this sort of instance, where Allah is emphasizing His Unity to His servant and calling him to His worship (Alone) in true sincerity, we find that the singular context is most appropriate. The mention of the East and West in singular context perfects the Unitarian atmosphere, which we experience from this Noble Verse. However, in the second Verse, the context differs. Let us look at some of the Verses. Allah, Most High, says:

﴿ خَلَقَ الْإِنْسَانَ مِنْ صَلْصَلٍ كَالْفَخَّارِ ٥ ﴾ وَخَلَقَ الْجَانَّ مِنْ مَّارِجٍ مِنْ نَارٍ ٦ ﴿  
فَإِنِّي مَالِكٌ تَنْكِدَ بَابَ ٧ رَبِّكَ لِلْمُقِرِّينَ ٨ وَتَبُذُّهُمْ فِي أَعْيُنِ النَّاسِ ٩ فَأُولَٰئِكَ تَنْكِدُ بَابَ ١٠  
مَرَجَ الْبَحْرَيْنِ يَلْتَقِيَانِ ١١ بَيْنَهُمَا بَرْزَخٌ لَا يَبْغِيَانِ ١٢ فَإِنِّي مَالِكٌ تَنْكِدُ بَابَ ١٣  
يُخْرِجُهُمَا مِنَ الْمَوْتِ وَالتَّوَلَّى ١٤ فَإِنِّي مَالِكٌ تَنْكِدُ بَابَ ١٥ ﴾

"He created man (Adam) from sounding clay like the clay of pottery. And the Jinns did He create from a smokeless flame of fire. Then which of the Blessings of your Lord will you both (Jinns, and men) deny? (He is) the Lord of the two Easts (places of sunrise during early summer and early winter) and Lord of the two Wests (places of sunset during early summer and early winter). Then which of the Blessings of your Lord will you both (Jinns and men) deny? He has let loose the two seas (the salt water and the sweat) meeting together. Between them is a barrier which none of them can transgress. Then which of the Blessings of your Lord will you both (Jinns and men) deny? Out of them both come out pearl and coral. Then which of the Blessings of

your Lord will you both (Jinns and men) deny?" (Soorah Ar-Rahman 55:14-23).

The discourse in these Verses comes in the contexts of duals. The Beneficent (Allah) informs us that He is the One Who created man and Jinn, that He is the Lord of the two Easts and the two Wests, that He is the One Who let loose the two seas (salt and fresh water seas) to meet but without transgressing over each other, from them come pearls and corals. Thus the dominant context is the dual context and hence it is most appropriate that the East and the West should also be mentioned in duals.

In the third example, if we wrote the third Verse along with its preceding Verses and its succeeding Verses, we understand the reason for mentioning the East and West in a plural context. Allah says:

[illegible]

"So what is the matter with those who disbelieve that they hasten to listen from you (O Muhammad) in order to belie you and to mock at you, and at Allah's Book (the Qur'an) (sitting) in groups on the right and on the left (of you, O Muhammad)? Does every man of them hope to enter the Paradise of delight? No, that is not like that? Verily, We have created them out of that which they know! So I swear by the Lord of all (the three hundred and sixty) points of sunrise and sunset in the East and the West that surely, We are Able-To replace them by (others) better than them, and We are not to be outrun." (Soorah Al-Ma'arij 70:36-41).

The discourse here (as the reader would observe) has to do with the disbelievers; therefore several easts and wests were mentioned in such a way that the contextual rhythm is plural and the context preserves the character we have observed with the two previous Verses.

From another viewpoint, the Most High, Most Powerful (Allah) calls us to contemplate profoundly the meanings of the different contexts. The intent with mentioning the East and West in the plural context could be to call the attention of new disbelievers from new



places (on Earth). It is as though the Most High, Most Powerful (Allah) is addressing them saying:

﴿قُلْ أَقِيمُوا رَبِّ الشَّرْقِ وَالْمَغْرِبِ إِنَّا لَفَاعِلُونَ﴾

"So I swear by the Lord of all (the three hundred and sixty) points of sunrise and sunset in the East and the West that surely, We are Able." (Al-Ma'arij 70:40).

This (Easts and Wests) which We have informed you of and made you see in all places on Earth, We are certainly Able to replace them by (others) better than them and we are not to be overcome. No doubt this congruence, which we have shown in the three sets of Verses mentioned above, is a living example of Qur'anic eloquence and its beautiful linguistic style. Along with this, we find that the mention of the East and West in singular, dual and plural contexts impels seekers to research and contemplate and incites deep and profound thoughts. Certainly, critical meanings, choice of words, expressive style and even contexts of usage do not emanate with such ease as this except from the Almighty, the Wise (Allah). If we profoundly contemplate once more the meaning of: "Lord of the Easts ... and the Wests ..." we would find in this expression this new viewpoint that was (previously) unknown to man. Definitely the rising and setting of the sun at every moment upon different cities and places upon the Earth was something farfetched for human imagination.

(Aayat ul-Qur'aanyah fi Mahakot il-Yam - Dr Yahya Ali Mahjiri).



Red Nebula black hole with blue clouds

## Ascension and the Darkness of the universe

Dr. Zaghloul an-Najjaar

In our last examination of the statement of Allah, Most High:-

﴿وَلَوْ فَتَحْنَا عَلَيْهِمْ بَابًا مِّنَ السَّمَاءِ فَظَلُّوا فِيهِ يَعْرُجُونَ ﴿١٤﴾  
لَقَالُوا إِنَّمَا سُكَّرَتْ أَبْصَارُنَا بَلْ نَحْنُ مُسْحُورُونَ﴾

"And even if We opened to them a gate from the heavens and they were to continue ascending there to; they would surely say: 'Our eyes have been (as if) dazzled. Nay, we are a people bewitched.'" (Soorah Al-Hijr 15:14-15)

We come across another scientific wonder in this Verse, and that is in His (Exalted is He) statement:



﴿لَقَالُوا إِنَّمَا سُكِّرَتْ أَبْصَارُنَا﴾

"They would surely say: 'Our eyes have been (as if) dazzled'."

This is from the fact that the eyes have been dazzled and the darkness of the expansive cosmos has become confirmed by ascension into space. Darkness prevails to the "end" of the universe, this has been explained by science in great detail. The explanation for it is: if we were to compare the thickness of daytime stratum (of the atmosphere) of about two hundred kilometers to the distance between the Earth and the sun (a distance of one hundred and fifty million kilometers), the fraction is approximately 1/750,000. If we compare this fraction to the radius of the known universe, it becomes obvious that it is insignificant. Thus the magnificent parable of the Qur'an becomes clear regarding Allah's Words:

﴿وَمَآءَةً لَهُمُ اللَّيْلُ نَسْلَخُ مِنْهُ النَّهَارَ فَإِذَا هُمْ مُظْلِمُونَ﴾

"And a sign for them is the night, We withdraw therefrom the day, and behold, they are in darkness." (Soorah Ya Seen 36:37).

When He compares the removal of the extremely thin daytime stratum with the removal of the skin of a slaughtered animal from its whole body, a matter which affirms that darkness is the norm in the universe and daylight is but a thin repetitive phenomenon, which only becomes visible in half of the Earth's atmospheric envelope, which faces the sun as the Earth, rotates about itself. As a result of this rotation daytime is gradually bared from the intense darkness of each night and the heavens, just as the skin is gradually bared from a slaughtered animal.

Also, affirming the perpetual darkness of the space is what the Qur'an confirms at another place, and that is Allah's Words:

﴿مَلَأْنَاهُمْ أَفْنَادًا أَوْ أَشْأَةً بَيْنَهُمَا ﴿٣٥﴾ رَفَعَ سَنَكُمَا سَوَاءً ﴿٣٦﴾ وَلَقَدْ فَتَنَّا رَبَّهَا وَلَقَدْ فَتَنَّا رَبَّهَا﴾

"Are you more difficult to create, or is the heaven that He constructed? He raised its heights and He has equally ordered it. Its night covers with darkness and its forenoon He brings out (with light)." (Soorah

An-Naziyat 79:27-29).

The pronoun in His saying: ﴿وَلَقَدْ فَتَنَّا رَبَّهَا﴾ "its night covers with darkness" refers to space. The meaning of this is that Allah, Most High, made the night of space perpetually of intense gloomy darkness, whether it merges with the darkness of Earth's night or it separates there due to the thin daytime stratum (of the atmosphere) which the light of day engulfs. Our Lord, Glorified is He, describes it in His Words: ﴿وَلَقَدْ فَتَنَّا رَبَّهَا﴾ "Its forenoon He brings out (with light)," i.e. He made manifest the light of the sun so that it may be perceived from places on Earth as light and heat in the Earth's daytime.

This is confirmed by the oath of Allah by daytime, that when He manifests the sun, i.e., He unveils it and makes it bright. So, He says:

﴿وَالشَّمْسُ وَضُحَاهَا ﴿١﴾ وَالْقَمَرُ إِذَا تَلَّهَا ﴿٢﴾ وَالنَّهَارُ إِذَا جَلَّهَا ﴿٣﴾ وَاللَّيْلُ إِذَا يَغْشَاهَا ﴿٤﴾﴾

"And by the sun and its brightness. And by the moon as it follows it (the sun); and by the day as it shows up (the sun's) brightness; and by the night as it conceals it (the sun)." (Soorah Ash-Shams 91:1-4).

That is, it is the daytime which makes the sun visible and bright to whoever views it from the Earth. This is another of the scientific







Space station

wonders of the Qur'an: confirming that the radiation of the sun is not seen except as light during daytime and that the universe beyond the Earth is pitch darkness and that the daytime stratum must have characteristics which enable it in the manifestation and brightening of the sun's light to support life on Earth.

These are some of the scientific wonders, which these two Noble Verses contain. Doubtlessly, there are scientific wonders in these Verses and others which science is yet to discover. All these affirm and confirm the miraculous nature of the Qur'an:

﴿وَلَقَدْ أَنْزَلْنَا إِلَيْكَ الْكِتَابَ﴾

"And truly, this (the Qur'an) is a revelation from the Lord of the *Alameen* (mankind, Jinns and all that exists)." (Soorah Ash-Shu'ra' 26:192).

And that:

﴿لَا يَأْتِيهِ الْبَاطِلُ مِنْ بَيْنِ يَدَيْهِ وَلَا مِنْ خَلْفِهِ، نَزِيلٌ مِنْ حَكِيمٍ حَمِيدٍ﴾

"Falsehood cannot come to it from before it or behind it (it is) sent down by the All-Wise, Worthy of all Praise (Allah)." (Soorah Fussilat 41:42).

And it is the perpetual miracle till Allah inherits the Earth and all that is upon it.

As for the entering of space, it is not possible except through an open door (window). The motion of any celestial body occurs in winding (curved elliptical, or helical) paths, which are not straight. This is what the Qur'an describes as '*Urooj* (continuous ascension).

These are some of the scientific wonders occurring in the statement of Allah, Most High:

﴿وَلَوْ فَتَحْنَا عَلَيْهِمْ بَابًا مِنَ السَّمَاءِ فَظَلُّوا فِيهِ يَعْرُجُونَ ﴿١٤﴾ لَقَالُوا إِنَّمَا سُكَّرَتْ أَبْصَارُنَا بَلْ عَنَّا قَوْمٌ مَسْحُورُونَ﴾

"And even if We opened to them a gate of the heavens and they were to continue ascending thereto; they would surely say: 'Our eyes have been (as if) dazzled. Nay, we are a people bewitched.'" (Soorah Al-Hijr 15:14-15).

Another aspect of the scientific wonders in this Verse is regarding His saying:

﴿لَقَالُوا إِنَّمَا سُكَّرَتْ أَبْصَارُنَا بَلْ عَنَّا قَوْمٌ مَسْحُورُونَ﴾

"They would surely say: 'Our eyes have been (as if) dazzled. Nay, we are a people bewitched.'".

The meaning of the Verse is: Were a gate of the heavens to be opened to these rejecters of the Creator, they would say: Definitely, our eyes are dazzled and covered. They are not able to see anything; and at this point - in this situation - man can see nothing but darkness.

This Qur'anic parable describes a fact about the universe which modern science only recently acknowledged. This was unknown to man. After man gained ability to go to space, it became apparent that



the universe is engulfed in most part by pitch darkness and that the daytime belt in the half of the Earth facing the sun is no thicker than two hundred kilometers measured from the sea level. Once man rises above this, he sees the sun as a blue disk on a pitch-black surface.

Since the portion where the daytime shows upon the Earth is limited in its length, breadth and thickness, and the motion (rotation) is continuous and persistent, and the distance between the Earth as the sun is about one hundred and fifty million kilometers, and the radius of the known universe is about twelve billion light years, then we understand how insignificant the thickness of the daytime stratum is and its non-constancy due to its transfer from one point to another. It also becomes clear to us that this thin stratum veils from us the darkness of the universe beyond the Earth while we experience bright daytime. Once night comes, the day departs and the darkness of our (earthly) night merges with the darkness of the universe. That thin light stratum moves to the other half of the Earth to separate it from the overwhelming darkness (of the universe).

The brightening of daytime in the lower stratum (layer) of one Earth's envelope in the pleasant white color (in which we see it daily) is a tremendous blessing from amongst the blessings of Allah upon His creatures. The reason for this is that the air in this layer of the atmosphere has the greatest density (relatively) and as we rise the density diminishes, until it is virtually nonexistent. This layer is saturated with water vapor and dust particles, which the winds pick from the surface of the Earth and suspend in the air. Each part of the dense air, the water vapor and dust particles scatter and reflect the rays of the sun until it appears white distinguishing daytime as a light phenomenon limited to the lower layer of the atmospheric envelope of the half of the Earth facing the sun.

After exceeding the two-hundred-kilometer mark above sea level, air becomes rarefied due to its sparseness of concentration and low density with height. And due to the sparseness of both water vapor and dust particles in it, it drops relative to the height until almost becoming nonexistent. The sun and other stars appear as brilliant blue points in an engulfing pitch dark ocean (of space) because their radiations find

nothing to scatter or reflect them in the expanse of the universe.

Glorified is the Lord of the heavens and the Earth who has informed us of this fact prior to its discovery by science. By comparing one ascending into the heavens with one whose eyes are (as if) dazzled, such that he sees nothing but complete pitch darkness, or with someone whose sight is affected by magic and can hardly see anything going on around him, both similitudes are detailed expressions of what the earliest explorers of space experienced upon going beyond the daytime stratum and entering into the darkness of the universe. They narrated their experience in a manner that was similar to what was expressed by the verse of the Qur'an without previously being aware of it (the Verses):

﴿إِنَّمَا سَكِرْنَا بَأْصَارُنَا﴾

"our eyes have been (as if) dazzled."

Allah says:

﴿سَرُبْنَاهُمَا بَيْنَنَا فِي الْأَفَاقِ وَفِي أَنْفُسِهِمْ حَتَّى يَبَيِّنَ لَهُمْ أَنَّهُ الْحَقُّ﴾

"We will show them our Signs in the universe and in their own selves, until it becomes manifest to them that this (the Qur'an) is the Truth." (Soorah Fussilat 41:53).

Therefore, the space is not just an empty place as previously assumed but rather a building into which entry is impossible except from an open gate. Let us examine the statement in Noble Verse:

﴿فَظَلُّوا فِيهِ يَمْرُجُونَ﴾

"And they were to continue ascending there to."

The word *Al-Urooj* (interpreted in the Verse as "continue ascending thereto") linguistically means the motion of a body in a curved winding path. Extensive studies have proved that the motion of bodies in the universe can never be in a straight path, necessarily, it must be curved and winding due to the diffusion (spreading) of matter and energy in the whole universe. Thus, any material body, regardless of the



magnitude or minuteness of its mass, cannot but move in a curved path.

It has become confirmed in science that a moving celestial body in space, regardless of its mass, has attractive and repulsive forces which affect it. This is what the Noble Qur'an referred to as *Al-'Urooj*. Had it not been for the understanding of the 'Urooj (ascension path) of bodies into space, it would not have been possible for man to launch artificial satellites into space nor venture into space.

The explanation for this is that for any object launched into the skies it must necessarily travel in a curved path. This is due to the combination effect of the force of gravity and the force of propulsion. The magnitudes of these two forces depend upon the mass of the object in motion. When these two opposing forces are in equilibrium the object begins to revolve in an orbit about the Earth, propelled at a horizontal speed known as angular velocity.

This is a delicate measure which the Creator, Glorified is He, between the force of gravity and the force of propulsion (resulting from the cleaving of the heaven and the Earth) is what determined the orbit in which each celestial body moves and the speeds at which each of them moves in its orbit while rotating on its axis.

Since the gravitational pull of the Earth diminishes with increase in altitude above the Earth, the speed of an object ascending into space changes with a change in its altitude. By knowing precisely the relationship between the gravitational pull of the Earth and the speed of an object being launched into space, it is possible to compute precisely the height at which the object will orbit the Earth or any other celestial body in the Solar System or even beyond the Solar System such that it enters into the sphere of influence of a larger body and revolves around it.

The least speed required to overcome the gravitational pull of the Earth for an object launched from its surface into space is known as the escape velocity. It has a known computation.

The Noble Qur'an has described the ascension of objects into space at places other than the one we are examining; He says:

﴿يَعْلَمُ مَا يَلِجُ فِي الْأَرْضِ وَمَا يَخْرُجُ مِنْهَا وَمَا يَنْزِلُ مِنَ السَّمَاءِ وَمَا يَعْرُجُ فِيهَا﴾

"He knows that which goes into the Earth and that which comes forth from it and that which descends from the heavens and that which ascends to it..." (Soorah Saba' 34:2).

﴿يُدَبِّرُ الْأَمْرَ مِنَ السَّمَاءِ إِلَى الْأَرْضِ ثُمَّ يَعْرُجُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ أَلْفَ سَنَةٍ وَمَا تَعُدُّونَ﴾

"He arranges (every affair from the heavens to the Earth, then it (affair) will go up to Him. In one day, the space whereof is a thousand years of your reckoning (i.e. reckoning of our present worlds time)." Soorah As-Sajdah 32:5).

﴿وَلَوْلَا أَنْ يَكُونَ النَّاسُ أُمَّةً وَاحِدَةً لَجَعَلْنَا لِمَنْ يَكْفُرُ بِالرَّحْمَنِ

لِئُيُونِهِمْ سُقًى وَمِنْ فِضٍّ وَمَعَاجٍ عَلَيْهَا يُنْظَرُونَ﴾

"And were it not that all mankind would have become one community (all disbelievers, desiring worldly life only), We would have provided for those who disbelieve in the Most Gracious (Allah), silver roofs for their houses, and elevators (and stair ways, etc of silver) where by the ascend." (Az-Zukhruf 43:33).

﴿تَعْرُجُ الْمَلَائِكَةُ وَالرُّوحُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ خَمْسِينَ أَلْفَ سَنَةٍ﴾

"The angels and Rooh (Jibrael) ascend to Him in a day the measure whereof is fifty thousand years." (Soorah Al-Ma'arij 70:4).

So, praise be to Him in whose Hand is the dominion of all things. Allah says in His Book:

﴿الَّذِي أَحْسَنَ كُلَّ شَيْءٍ خَلَقَهُ﴾

"(He) Who made everything He has created good..." (Soorah As-Sajdah 32:7).

Praise is to Allah, Lord of the Worlds.

So, we say: the Noble Qur'an contains several facts which modern science has established and continues to establish day after day. Amongst that is what occurs in the statement of Allah, the Exalted:



﴿وَلَوْ فَتَحْنَا عَلَيْهِمْ بَابًا مِّنَ السَّمَاءِ فَظَلُّوا فِيهِ يَعْرُجُونَ ﴿١٤﴾  
لَقَالُوا إِنَّمَا سُكَّرَتْ أَبْصَارُنَا بَلْ عَمَّنْ قَوْمٌ سَاحِرُونَ﴾

"And even if We opened to them a gate of the heavens and they were to continue ascending thereto, they would surely say: 'Our eyes have been (as if) dazzled. Nay, we are a people bewitched.'" (Soorah Al-Hijr 15:14-15).

The two Noble Verses occur in the context of a discussion about the obstinacy and haughtiness of the disbelievers of Quraish toward the Messenger of Allah, peace and blessings of Allah be upon him, and their belying what he brought of clear proofs and guidance. These two Verses typify a clear example of the haughtiness and obstinacy of the people of falsehood toward the truth; even if Allah, Most High, were to open for them a gate of the heavens and enable them to keep ascending thereto with their bodies so that they may observe the amazing creation of Allah, and appreciate the Magnificence of His Power to originate creation, they would still doubt their sight and belie their eyesight and intellect. They would also accuse themselves of complete incapacitation of sights and would imagine that they were in a state of bewitchment. All these are attempt to dodge the truth due to that fact that they have extreme hatred for the truth and are an obstinate people. Our purpose here is not to detail the position of the haughty and idolatrous amongst the Quraish or others like them, rather what we intend is to comprehend some of the scientific wonders of these two noble Verses as the opportunity permits.

The first point of scientific wonder in these Verses is Allah's statement: "*a gate from the heavens*". Science has established categorically that space is not empty as man was used to assuming not too long ago. Rather, it is a structured construction into which entry is impossible except through an open gate.

Until recent years, it was not known to anyone that space – despite its expanse – was not empty but is filled with matter of extremely thin concentration in the form of rarefied gases; the major gases being hydrogen and helium, and minor concentrations of oxygen, nitrogen, water vapor and neon. All these, along with enormous amounts of

different radiations form the universe. The principal reason for the previous assumption that space was empty was due to the gradual decrease in pressure in the atmospheric envelope of the Earth with increase in altitude about its surface until it becomes practically imperceptible beyond a thousand kilometers above sea level.

As mentioned earlier, science has eventually confirmed that space is a structured building (construction) filled with matter and energy and cannot be penetrated except via the path of an open gate. This is what the Qur'an has mentioned in this Verse we are examining and in other Verses. This is testimony to the truth of the Qur'an and that it is a revelation from the Lord of the entire creation and all that is in the universe:

﴿صُنِعَ الْفَوْالِذِي أَنْزَلَ كُلَّ شَيْءٍ وَإِنَّهُ خَبِيرٌ بِمَا تَفْعَلُونَ﴾

".... The Work of Allah Who perfected all things. Verily! He is well-acquainted with what you do." (Soorah An-Naml 27:88).

This Verse contains examples of scientific wonders other than that which we mentioned. We shall soon examine them in due course in our subsequent essays. We beseech Allah for guidance. He is the Patron Lord, what an excellent Patron Lord and what an excellent Helper! And the last of our supplication is Praise be to Allah the Lord of the Worlds.

(Zoughloul An-Najjar, Saheefat ul-Ahram no 41874).





## The Atmospheric pressure

### The marvelous verse:

Allah, the Mighty and Sublime, says:

﴿فَمَنْ يُرِدْ اللَّهُ أَنْ يَهْدِيَهُ يَشْرَحْ صَدْرَهُ لِلْإِسْلَامِ وَمَنْ يُرِدْ أَنْ يُضِلَّهُ يَجْعَلْ صَدْرَهُ ضَيِّقًا حَرِيًّا كَأَنَّمَا يَصْعَدُ فِي السَّمَاءِ﴾

"And whomsoever Allah wills to guide, he opens his breast to Islam and whomsoever He wills to send astray, He makes his breast closed and constricted, as if he is climbing up to the sky." (Soorah Al-An'am 6:125).

### Linguistic Explanation:

*Al-Haraj*: *Al-Mutaharrij*: the one who refrains from sin.

*Al-Haraj*: the greatest constriction. Ibn Atheer said: *Al-Haraj* basically means narrowness.

*Rajulun Harajun*: A parochial man

*Haraja Sadruhu*: His mind is narrow and not open to goodness.

### Scientific facts:

As one ascends the sky, atmospheric pressure decreases and so does the amount of oxygen. This results in a constriction of the lungs and difficulty in breathing.

### Scientific explanation:

Allah, the Mighty and Sublime, says in His Book:

﴿فَمَنْ يُرِدْ اللَّهُ أَنْ يَهْدِيَهُ يَشْرَحْ صَدْرَهُ لِلْإِسْلَامِ وَمَنْ يُرِدْ أَنْ يُضِلَّهُ يَجْعَلْ صَدْرَهُ ضَيِّقًا حَرِيًّا كَأَنَّمَا يَصْعَدُ فِي السَّمَاءِ﴾

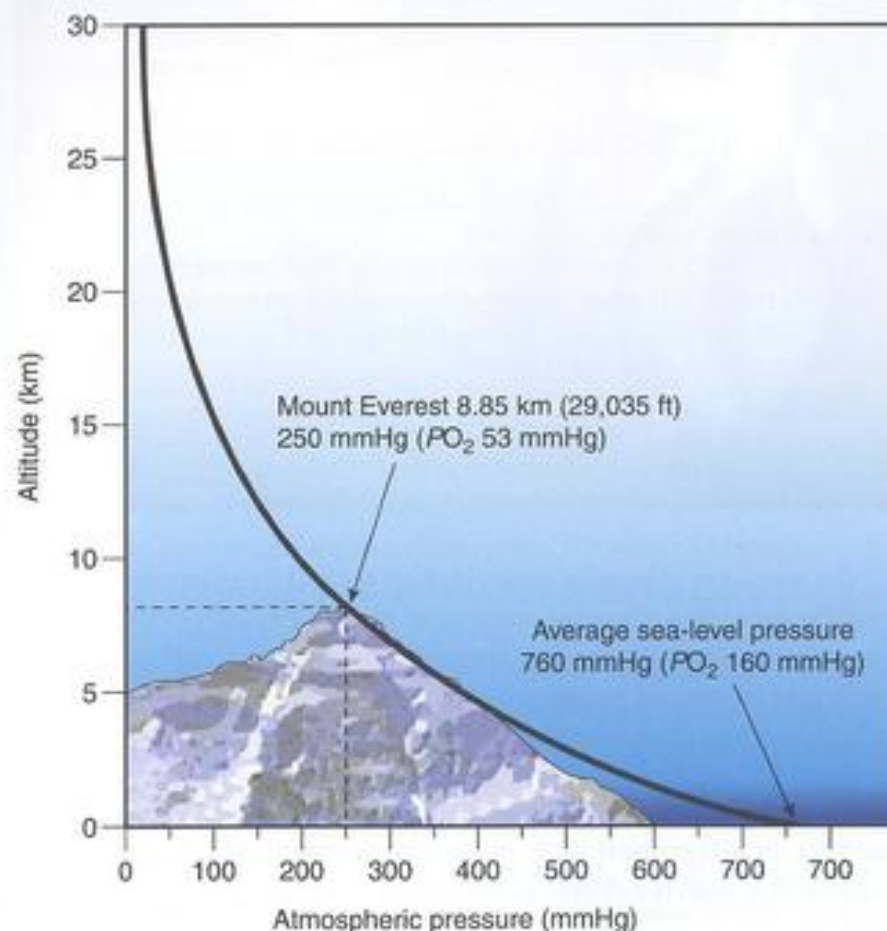
"And whomsoever Allah wills to guide, he opens his breast to Islam

and whomsoever He wills to send astray, He makes his breast closed and constricted, as if he is climbing up to the sky." (Soorah Al-An'am 6:125).

This is a clear Verse that points explicitly to two facts now confirmed by science.

**First:** A tremendous change occurs in atmospheric pressure with fast rise into the sky resulting in a constriction in the lungs and a difficulty in breathing.

**Second:** Each time one goes higher in the sky, the atmospheric pressure and the quantity of available oxygen reduce, which lead to constriction in the lungs and difficulty in breathing.





In 1648 Blaise Pascal, confirmed that atmospheric pressure decreases with altitude above sea level.

*The World Encyclopedia* states that most of the mass of the atmosphere is not evenly distributed in a vertical direction so that fifty percent of the mass of the atmosphere accumulates between the Earth's surface and twenty thousand feet above sea level.

Also, ninety percent is found within the first fifty thousand feet above sea level. Therefore, the density (of the atmosphere) decreases rapidly as we ascend in a vertical direction such that at very high altitudes, the density becomes extremely low.



The same encyclopedia states that all forms of life require oxygen with the exception of simple unicellular organisms. Man as an example cannot do without breathing oxygen to remain alive and maintain a particular amount of pressure (within his lungs). The presence of man at altitudes less than twenty thousand feet poses no serious breathing problem. On reaching heights between twenty and twenty-five thousand feet, breathing is possible due to the fact that man's respiratory organs are able to adapt itself with great distress and difficulty. However, beyond this, man is not able to breathe at all resulting usually in death

due to lack of oxygen.

*The American Encyclopedia* says: "It is necessary for an airplane at very high altitudes to maintain a specific internal pressure as protection for its passengers. Surely, atmospheric pressure at such altitudes falls much below levels required to preserve adequate oxygen to keep passengers alive. Also rapid change in atmospheric pressure resulting from change in altitude causes an acute body discomfort. This is due to an increase in the concentration of nitrogen in the blood with rapid decrease in pressure."

Undoubtedly, people during the time of the Prophet, peace and blessings of Allah be upon him, were neither aware of change nor decrease in pressure with altitude, nor that it results in any difficulty in breathing. In fact, it results in rupturing of the arteries at tremendous heights. Despite that, the Verse explains that Allah says:

﴿فَمَنْ يُرِدِ اللَّهُ أَنْ يَهْدِيَهُ يَفْرَحْ صَدْرُهُ إِلَى سَلَمٍ وَمَنْ يُرِدْ أَنْ يُضِلَّهُ يَجْعَلْ صَدْرَهُ صَنِيعًا حَرَبًا كَأَنَّمَا يَصْعَقُ فِي السَّمَاءِ﴾

"And whomsoever Allah wills to guide, he opens his breast to Islam and whomsoever He wills to send astray, He makes his breast closed and constricted, as if he is climbing up to the sky." (Soorah Al-An'am 6:125).

It explicitly points out that the breast of man becomes constrained as he climbs into the sky and that the constriction increases as his altitude increases until it becomes unbearable (this is the interpretation the scholars of the Arabic language have given the word *Al-Haraj*).

The Verse expressed the ascension (into the sky) in the best manner: "as if he is climbing up" since its basis - *Yatasa'adu* the alphabet *Ta* was transformed to *Saad* and assimilated into the *Saad* and it became - *Yassa'adu* and its meaning is that: It will make an ascension after another. Therefore, it does not talk of only a constriction experienced from the high altitudes in the atmosphere but also that it continues to increase till it becomes unbearable.

Glorified is He Who made hearing His Verses a source of bewilderment and confusion to a people and a means of reflection for



others. And Glorified is He Who perplexed with the eloquence of this Book the orators, outwitted the philosophers or sages by the detailing of his speech and baffled with the finesse of His symbolic expressions, the intelligentsia.

Glorified is He Who revealed upon His unlettered servant:

﴿إِنَّمَا يَخْشَى اللَّهَ مِنْ عِبَادِهِ الْعُلَمَاءُ﴾

"It is only those who have knowledge among His slaves that fear Allah." (Soorah Fatir 35:28).

The scientific wonder in the Verse is the meaning of *Yassa'adu* (continuous ascension) that the climbing into sky results in a constraint in breathing. This is what science has only proven in our times.



## Orbitations of the Universe

### Orbitation is a characteristic of the universe

By Dr Ahmad Fu'ad Basha - Deputy Vice-Chancellor of Cairo University

Allah, Most High, says in His Noble Book.

﴿وَهُوَ الَّذِي خَلَقَ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ كُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"And He it is Who has created the night and the day, and the sun and the moon, each in an orbit floating." (Soorah Al-Anbiya' 21:33).

This Verse points us to an important fact related to the order of motion in the universe. Modern science partook in the discovery of the fact and in illuminating it after establishing that we live in an expansive universe in which motion depends on revolution which is like orbit about a central point. The Earth revolves in a specific orbit around the sun once every year and the moon revolves in a specific orbit around the Earth once every Arabic (lunar) month just as all other



planets have specific orbits in which they revolve around the sun. Most of these planets possess moons which orbit them. Astronomers have so far observed over sixty such moons.

The Solar System in which the Earth exists revolves around the center of the Milky Way galaxy which contains about one hundred and thirty billion stars. As a group, all the galaxies we are looking at orbit about a center known to no one but Allah. It is as though by this scientific picture of the universe, we are looking at orbital motion or circumambulation as a universal custom exhibited by everything in existence.

If we turn our attention to the atomic world, we find that the atom which is yet to be observed by anyone using the naked eye, or with the aid of the most powerful microscopes, it is made up of an atomic nucleus whose diameter is no greater than one parts in a million of a



millimeter. We find an electron or more revolving round it in orbits. This implies that the atoms of all matter, be they solid, liquid or gaseous, in the universe observe the phenomenon of orbit. Included in this are all the atoms that make up our bodies, food, drinks, air which we inhale, all living organisms whether plant or animal and every material thing in Earth such as the seas, sand and mountains or the heaven such as stars, planets, moons, or between the heavens such as gases, meteors, pulsars, comets, etc.

The world of living organisms does not contravene this universal norm which points to the unity of the universe and the Oneness of the Creator, Glorified and Exalted is He. Modern science has revealed using the technology of powerful microscopes that the fluids in the cells of living organisms known as cytoplasm revolve or orbit about the cell nucleus. The dominant form of motion in all these instances is a counter-clockwise direction.

Thus, there are several orbiting objects, be they electrons orbiting a nucleus, or planets orbiting the sun or moon orbiting the planets

or star orbiting the centers of galaxies, or galaxies orbiting a center yet unknown to us, everything in the universe is orbiting. Our innate pure nature inclines us to contemplate another example of orbit, which Allah, Honored and High is He, has made one of the distinctions of Islam. It is the circumambulation about the Ka'bah (the Holy House of Allah in Makkah) one of the rites of *Hajj* and *Umrah*.

Circumambulation around the Ka'bah is a symbol of worship whose significance is not appreciated by some. However it is in conformity with modern scientific facts which point to an enormous secret of the universe. The pilgrim testifies to pure Monotheism to Allah as a response to the call of God Who ordered Ibraheem, peace be upon him, to proclaim *Hajj* to mankind. Thereby the pilgrim acclaims the statement of Allah, Most High:

﴿وَلَذِكْرُكُنَا لَا يَنْزِعُ مَكَاتَ الْبَيْتِ أَنْ لَا تُشْرِكُوا بِيَّ شَيْئًا وَمَنْ يَشْرِكْ بِاللَّهِ فَقَدْ ضَلَّ سَبِيلَهُ الْكَبِيرَ﴾  
 ﴿وَأَذِّنْ فِي النَّاسِ بِالْحَجِّ يَأْتُوكَ رِجَالًا وَعَلَى كُلِّ ضَامِرٍ يَأْتِينَ مِنْ كُلِّ فَجٍّ عَمِيقٍ﴾

"And (remember) when We showed Ibraaheem (Abraham) the site of the (sacred) House (the Ka'aba at Makkah) (saying): Associate not anything (in worship) with Me, *[Ila ilaha illa Allah]* (none has the right to be worshipped but Allah- Islamic monotheism), and sanctify My House for those who circumambulate it and those who stand up for prayer, and those who bow (submit themselves with humility and obedience to Allah) and make prostration (in prayer etc). And proclaim to mankind the hajj (pilgrimage). They will come to you on foot and on every lean camel; they will come from every deep and distant (wide) mountain highway (to perform Hajj)." (Al-Hajj 22:26-27).

It is as if the Ka'bah is the center of spiritual gravitation which must necessarily occur between the Muslims and the Ancient House of Allah. This is the House whose direction all Muslims face in their prayers at least five times daily wherever they are and whatever the distance. The spiritual gravitation is what makes every foot upon reaching the Ka'bah and spontaneously begin to circumambulate around it, just as any celestial body trapped in the gravitation of a larger one begins to orbit it.



We also observe that the Muslims circumambulate around the Ka'bah in a counter-clockwise direction in such a way that the heart (which is in the left half of the body) is closer to the center of gravitation and circumambulation. We also observe this right-handedness in the direction of motion when performing the Sa'i (running between the hills of Safa and Marwa) which are from the symbols Allah. This encompassing right-handed viewpoints us to the fact that circumambulation (orbit) is a universal custom which indicate a phenomenon of unification between the commandments of the *Shari'ah* and the secrets of universe. This is why the symbol of *Talbiyyah* while circumambulating the Ka'bah<sup>1</sup> is a statement of Monotheism:

"*Labbaika Allahumma Labbaik... Labbaika la shareeka Laka Labbaik. Inna-l-Hamda, wan-Ni'mata Laka wal-Mulk... La shareeka Lak.*"

(Here am I, O Allah, Here am I. Here am I, You do not have any associate. Here am I. Certainly, all praise, blessing and authority belong to You... You have no associate)."

We find that the scientific discoveries which researchers arrived at, undoubtedly prove that Islam is the religion of the true natural faith which presents mankind with the true and complete picture of existence and which conforms with the fact of a Divine authority preserving the secrets of the universe. Therefore, the statement of testimony, *La ilaha illa-Allah* (none has the right to be worshipped but Allah), ought to be understood before being professed on the tongue and being felt in the heart. This is because having a complete picture requires contemplating Monotheism and faith based upon certainty which merges between the unison of the structure of an atom and the structure of the Solar System and the unison of energy by associating it to a single source though its forms may differ, and the unison of motion from the revolution of electrons around the nucleus of an atom to the revolution of moon around planet and planets around the sun and the cytoplasm around the protoplasm and the circumambulation of Muslims around the Ka'bah.

<sup>1</sup> The *Talbiyyah* which commences from the time of taking up the *Ihram* (the state of ritual consecration) at the *Meeqat* (stations) should actually be stopped shortly before the commencement of the circumambulation of the Ka'bah.

## The Rainy Sky

Allah, Most High, says:

﴿وَالسَّمَاءَ رَازِقَةً﴾

"By the sky (having rain clouds) which gives rain, again and again." (Soorah At-Tariq 86:11).

### Linguistic Interpretation:

*Ar-Raj'* means to leave. It is said to mean: that which holds water. *Ar-Raj'*: the rain because it returns, i.e., keeps coming back. The Qur'an



says:

﴿وَأَنزَلْنَا سَحَابًا مِّنْهُ﴾

"By the sky (having rain clouds) which given again and again."

It is also said that it means: one possessing benefit.

Tha'laba said: It returns with rain year after year.

Al-Luhayani said: This is because it returns with rain. Al-Fira'a said: It begins with rain and then returns with it every year. Others said: Full of rain, because it comes and goes and repeats itself.

#### The understanding of the scholars of Tafseer

Ar-Razi said in his interpretation of the Verse: Az-Zujaj said: *Ar-Raj'* is rain because it comes and repeats itself. You should know that the statement of Az-Zujaj and other scholars of language is explicit that *Ar-Raj'* is not a true name for rain rather it is called *Ar-Raj'* figuratively.

The beauty of this figurative usage is in different perspectives:

**First:** Al-Qaffal said: It is as though a repetition of sound and linking the alphabets by it. So is the rain as it returns time after time it was named *Raj'an*.

**Secondly:** Arabs used to believe that the cloud took water from the seas and sent it upon the land.

**Thirdly:** The Arabs wished to be optimistic so they named it *Raj'* so that it may return.

**Fourthly:** Rain returns every year.

If you know these meanings already, then let us look at the statements of the scholars of Tafseer:



**First:** Ibn 'Abbas, may Allah be pleased with , said:

﴿وَأَنزَلْنَا سَحَابًا مِّنْهُ﴾

"By the sky (having rain clouds) which given again and again."

means one containing rain, the rain returns after another. **Secondly:** The coming of good from its direction time after time as time rolls by, it gives it (good) repeatedly.

**Thirdly:** Ibn Zayd said: It (the sky) returns its sun as moon after their absence. However, the first statement is the correct one.

Al-Qurtubi said: Allah's saying: "*By the sky (having rain clouds) which gives again and again*" means one containing rain, returning with rain year after year. These are the statements of the scholars of Tafseer.

#### Scientific Facts

- ♦ The first layer of the atmospheric envelope - Troposphere - sends down upon the Earth water vapor as rain, and also sends down heat in the during the night by sending down carbon dioxide.
- ♦ The atmospheric envelope is a large protective armor protecting the Earth from pulsars, meteors and destructive radiations. This it does by its fifth layer known as the Stratosphere.
- ♦ The fourth layer of the atmospheric envelope (Thermosphere) serves as a reflector which reflects shortwave radio signals to the Earth.

#### Scientific Explanation

Allah, Most High, says in His Mighty Book:

﴿وَأَنزَلْنَا سَحَابًا مِّنْهُ﴾

"By the sky (having rain clouds) which gives rain, again and again."  
(Soorah At-Tariq 86:11).

This Verse indicates that the most important characteristic of the sky is that of *Ar-Raj'*. So what is *Ar-Raj'*? Linguistically, Ibn Mundhir said in *Arab language* it is something that holds water. Al-Luhayani said: It



was named *Ar-Raj'* because it returns with rain. The word *Ar-Raj'* is derived from *Ar-Ruj'* meaning, return and reflection. The meaning of the Verse is that the sky performs the duty of returning and reflecting.

Science has come to confirm this exegesis. Astronomers have discovered that the Troposphere serves to return to the Earth as rain whatever is vaporized from water bodies through a cycle known as the Water Cycle.

Astronomers have also discovered that the stratosphere which contains the ozone layer serves to return and reflect destructive radiation beyond the ultraviolet range back to space. Therefore, it protects the Earth from destructive radiation emanating from the universe. Thus it is regarded as a protective barrier that prevents most of the light and heat of the sun from reaching the Earth as mentioned in the *Encyclopedia Britannica*.

As for the Thermosphere it serves to return and reflect short and medium radio (SW and AM) emanating from the Earth (back to the Earth). This explains why it is possible to receive these signals at very far distances (from the source station). This is explained in details in the *Encyclopedia Britannica*.

It becomes clear from that the most important characteristic of the sky which scientists have discovered in the twentieth century is that it is a reflector.

Glorified is Allah Who says in His Miraculous Book:

﴿وَأَنزَلْنَا السَّمَاءَ دَانِئًا﴾

"By the sky (having rain clouds) which given again and again."

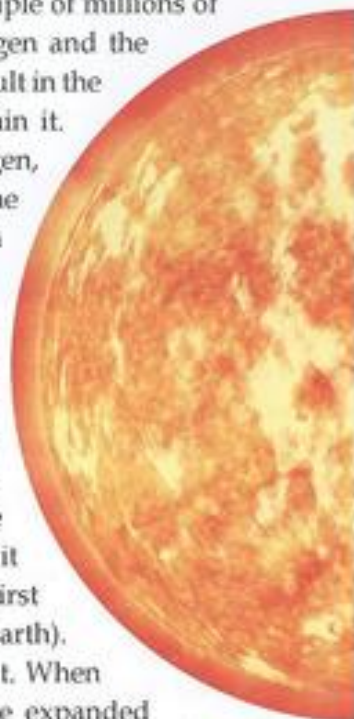
#### The Point of Wonder:

The point of wonder in this Verse of the Qur'an is that the most important characteristic of the sky is that of *Ar-Raj'*: reflection or that which returns. This is what modern science has discovered in the twentieth century.

## The Future of the Sun between the Qur'an and Science

The process of fission of hydrogen atoms to form helium in the interior of the sun can possibly continue for a couple of millions of years. However, the depletion of hydrogen and the proliferation of helium within it could result in the homogenous distribution of matter within it. Helium is four times heavier than hydrogen, and this will imply an imperfection in the density of the material of the sun and a loss of equilibrium.

This would necessitate an all-encompassing motion in order to regain equilibrium within the sun. This occurs by the tremendous expansion of the outer material of the sun which causes a shrinking of its core. Then the color of the sun may change to red. By this expansion it would become gigantic and swallow the first three planets (Mercury, Venus and the Earth). This is why the sun is called a Red Giant. When the internal force in the core wanes, the expanded outer skin would be unable to support itself upon anything so the body of the sun flows over itself in a process known as *Takweer* - heaving in and out. That occurs as a result of gravitational pull of its parts upon each other, thus it would contract rapidly and crush the material of the sun. The different parts intermingle as the atoms become so closely packed that they nearly fuse. However, the repulsive negative force of each electronic envelope prevents this fusing at very close distances. Thereby, the negative electronic forces balance out the gravitational force, which tends to crush and fold the sun. Whenever this occurs then the sun will be said to have reached its terminal state





and will be called a White Dwarf because nothing would remain of its radiation except a feeble light. Subrahmanyan Chandrasekhar, (1910-1995), an American theoretical astrophysicist, discovered that all stars whose mass is less than one and a half of that of the sun eventually end up as white dwarfs. White dwarfs are extremely dense as a cubic centimeter of it weighs up to a ton. Therefore, we comprehend the Word of (Allah), Most High:

﴿وَأَنشَأَ الْكَوْكَبَ﴾

"When the sun is *kuwwirat* (wound round as lost its light and is overthrown)?" (Soorah At-Tariq 86:1)

The sun is eventually going to *At-Takweer* (be wound round) until it becomes a White Dwarf for the word *kuwwirat* occurring in the Verse does not occur arbitrarily nor does it imply the loss of the sun's light and its extinction. The sense of that is what we read in the language encyclopedia that the root verb (of *kuwwirat*), *kuwwara*, means: to gather and revolve and this is exactly what happens during the gravity induced collapse, as the material of the star contracts and revolves around itself. This is why we have employed the terminology *Takweer* as an Arabic terminology for what happens during the gravity induced collapse.

Chandrasekhar and others after him have discovered that White Dwarfs do not occur in a single form. When the mass of the White Dwarf is greater than the size of our sun, it is possible for it to further evolve. It may explode and its constituents disappear totally. Thus it (White Dwarf) is not a terminal state. However, when the mass of the White Dwarf is equal to the mass of our sun then it has come to its terminal state whereby its light becomes feeble. It is possible for it to remain in this state for thousands even millions of years. From this perspective we can appreciate the Word of (Allah) the Exalted:

﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَّهَا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ﴾

"And the sun runs on its fixed course for a term (appointed). That is the decree of the Almighty, All-Knowing." (Soorah Ya Seen 36:38).



## The Moon was once ablaze then it was extinguished

Allah, Most High, says:

﴿وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَاتَيْنِ فَمَحَوْنَا آيَةَ اللَّيْلِ وَجَعَلْنَا آيَةَ النَّهَارِ مُبْصِرَةً﴾

"And We have appointed the night and day as two Ayat (signs, etc.). Then, We have obliterated the sign of the night (with darkness) while We have made the sign of the illuminating." (Soorah Al-Isra 17:12).

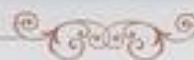
### Linguistic Explanation:

Ibn Mandhoor said: *Ayah* means sign; and Ibn Hamzah said: An *Ayah* from the Qur'an such as a sign which points to something else.

### The understanding of the scholars of *Tafseer*:

The noble Companions of the Prophet, peace and blessings of





Allah be upon him, have derived (from the Verse) more than fourteen centuries ago that the moon once gave light, then Allah obliterated its light. They mentioned this while interpreting the statement of (Allah), the Exalted, in *Soorah Al-Isra*:

﴿وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَاتَيْنِ  
فَمَحَوْنَا آيَةَ اللَّيْلِ وَجَعَلْنَا آيَةَ  
النَّهَارِ مُبْصِرَةً﴾

"And We have appointed the night and day as two Ayat. Then, We have obliterated the sign of the night (with darkness) while We have made the sign of the illuminating." (*Soorah Al-Isra* 17:12).

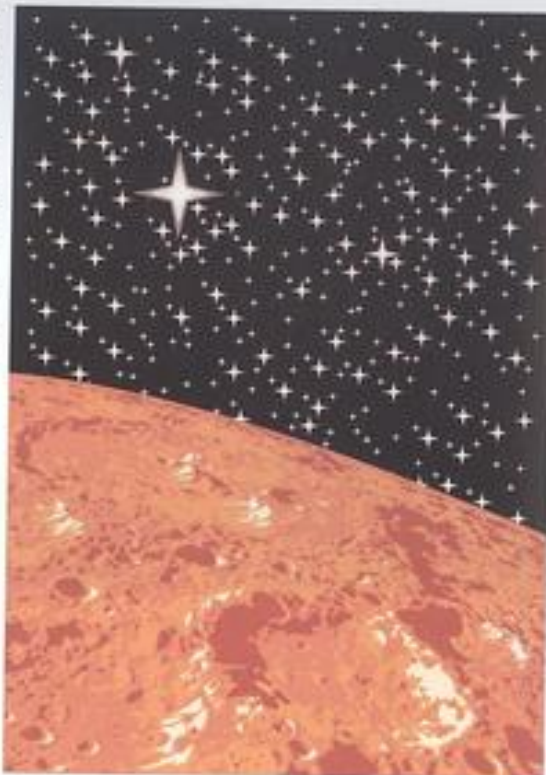
Imam Ibn Katheer narrated in his *Tafseer* that 'Abdullah Ibn 'Abbaas, may Allah be pleased with him, said in his interpretation of the Verse: "The moon once radiated light as the sun does (today), and it was the sign of the night. Then it was obliterated and the darkness now in it is a sign of the obliteration." (*Rooh ul-Ma'ani* by Al-Aloosi Vol. 15 P 26).

#### Scientific facts:

♦ Astronomers have discovered after man was able to voyage to the moon from the image obtained using artificial satellite that the moon was once ablaze but was extinguished and lost light.

#### Scientific Interpretation:

Allah - the Most High - said in His Majestic Book:



An Imaginary view of moon



﴿وَجَعَلْنَا اللَّيْلَ وَالنَّهَارَ آيَاتَيْنِ فَمَحَوْنَا آيَةَ اللَّيْلِ وَجَعَلْنَا آيَةَ النَّهَارِ مُبْصِرَةً﴾

"And We have appointed the night and day as two Ayat. Then, We have obliterated the sign of the night (with darkness) while We have made the sign of the illuminating." (*Soorah Al-Isra* 17:12).

The Verse points to a scientific fact, which was unknown until the twentieth century: in the distant past, the moon was ablaze and then Allah, Most High, put out its light. The indication of this by the Qur'an is explicit as mentioned by 'Abdullah Ibn 'Abbas, may Allah be pleased with him, when he said: The moon once radiated light as the sun does (today), and it was the sign of the night. Then it was obliterated and the darkness now in it is a sign of its obliteration.

This is the statement of a noble Companion which he derived from the Qur'an about fourteen centuries ago. So, what have astronomers to say concerning this issue?

Astronomy has eventually discovered that the moon was ablaze in the distant past, then its light was obliterated and its blaze was extinguished. Advanced observatories and the earliest artificial satellites have revealed images of the moon, which revealed the existence of several volcanic craters, hills and low valleys. It was not possible (at the time) for scientists to understand completely the nature of the moon until the American explorer Neil Armstrong landed on its surface in 1969. Thereafter through detailed astronomical and geological investigations of its surface and analysis of its soil, astronomers were able to make a categorical pronouncement such as that made by the American space agency (NASA): The moon was formed about 4.6 billion years ago. During its formation it experienced gigantic collisions with pulsars and meteors. Due to the tremendous heat, its layers melted resulting in the formation of the valley (trough) known as Maria and vents known as craters which began to spew enormous amounts of lava until the valleys were filled up. Then, the moon cooled, its volcanoes became dormant and stopped spewing lava. Thus, the moon extinguished after it had been blazing.

When we return to the Verse of the Qur'an, we perceive from the



use of the word "obliterated" which linguistically means to erase or remove, that, Allah removed and erased the light of the Moon. The intended erasing is not of the moon (for it exists up till date) but of its light and radiation. This is clear from the syntax of the Qur'an, which says: "The sign of the night is the moon and that of the daytime is the sun." The erasing is of the light and this is why Allah says:

﴿وَجَعَلْنَا نَارَ النَّهَارِ مُبِيرًا﴾

"and We made the sign of the day light illuminating..."

The use of the word illuminating refers to light: i.e. the light of the moon was obliterated and that of the sun remains illuminating.

So, who informed Muhammad, peace and blessings of Allah be upon him, of this fact which required space shuttles, artificial satellites and geologic analysis to be discovered and which has not be known until a few decades ago?

Glorified is He (Allah), the All-Knowing, the All-Wise, Who said:

﴿وَرَبِّكَ اللَّهُ لَكُمْ آيَاتٌ وَأَنَّهُ عَزِيزٌ حَكِيمٌ﴾

"And Allah explains to you His Verses. And Allah is All-Knowing, All-Wise." (Soorah An-Noor 24:18)

### Scientific References

According to NASA reports: "The moon is experiencing very slight activity and vibration, and very low outflow of heat (from its interior), which informs that the principal internal activity of the moon ended a long time ago. It is known that the moon, billions of years ago was exposed to severe combustion due to differentiation of its crust. Thereafter, it was exposed to outflow of volcanic lava. However, the lava outburst flowed and receded into large trough valleys (until the sources of the lava stopped) spewing. (In the last few billions of years in its history, the moon became calm and dormant geologically, with the exception of downpours of asteroids and meteors upon its surface.

Currently, scientists believe that the moon is the result of a collision between the ancient Earth and a small planet, which preceded it. This occurred about 4.6 billion years ago. The huge collision dispersed vaporized materials as haze in the shape a flat disc. This disc began to revolve round the Earth. Subsequently, this haze cooled and shrank to regions, which later solidified to form the moon."

The Agency also mentions: "About four billion years ago, a series of major collisions occurred (with the surface of the moon) and formed massive canyons. These canyons are today the location of trenches known as Maria similar to the ..... and .....trenches

In the period between 4 and 2.5 billion years ago, the volcanic activity filled the trenches with dark lava known as basalt. After the period of volcanic eruption, the moon cooled and became relatively dormant with the exception of the activities related to collisions of meteors and comets.

### The Point of Wonder:

The scientific wonder in the Verse of the Qur'an is that it points to the fact that the moon used to radiate light, and then this was erased and it became dark. Allah says: "And We obliterated the sign of the night", i.e. the (sign of the) moon and this is what satellite images and geological analysis of the moon's surface have revealed in the twentieth century. And Allah knows best.





## The missing mass in the universe

The problem of the missing mass (in the universe) is considered of the greatest problems confronting astronomers. They generally refer to this mass as Dark Matter. It cannot be seen, though it constitutes ninety percent of the assumed mass of the universe. According to the evaluation of scientists, the visible universe contains about one hundred billion galaxies and each galaxy contains about hundred billion stars. However, all of this does not account for more than ten percent of the assumed mass of the universe. In the light of this, we find that the density of the universe relative to the anticipated cover is much smaller than the actual density. Critical density as an example is mathematically estimated at between three to four hydrogen atoms per cubic meter of space to enable the material (of the universe) to preserve an equilibrium with gravity preventing the universe from dilatation.

However, the actual density of the universe does not exceed one to two hydrogen atoms per cubic meter of cosmic space. This means that there is a missing mass in the universe. We do not know anything about it. It possible it is as described by the explorer Nabeel Abdul Fattah in his book *Al-Kawn: Dhalika Al-Majhul - The Universe: The Unknown* as tiny particles or chemical elements about which we know nothing and which does not lend itself amenable to quantification instruments such as those used to measure chemical elements because it is fundamentally incongruent with the modern theory of the structure of an atom.

No one knows the nature of the structure of this matter. Some scientists opine that it is so cold that no radiation or light which can be observed emanates from it, unlike stars and galaxies that vibrate due to nuclear activity. The meaning of cold particles in physics is that they are experiencing very slow movement. Therefore, it is not possible to gather millions of stars into a galaxy and thousands of galaxies into large clusters.

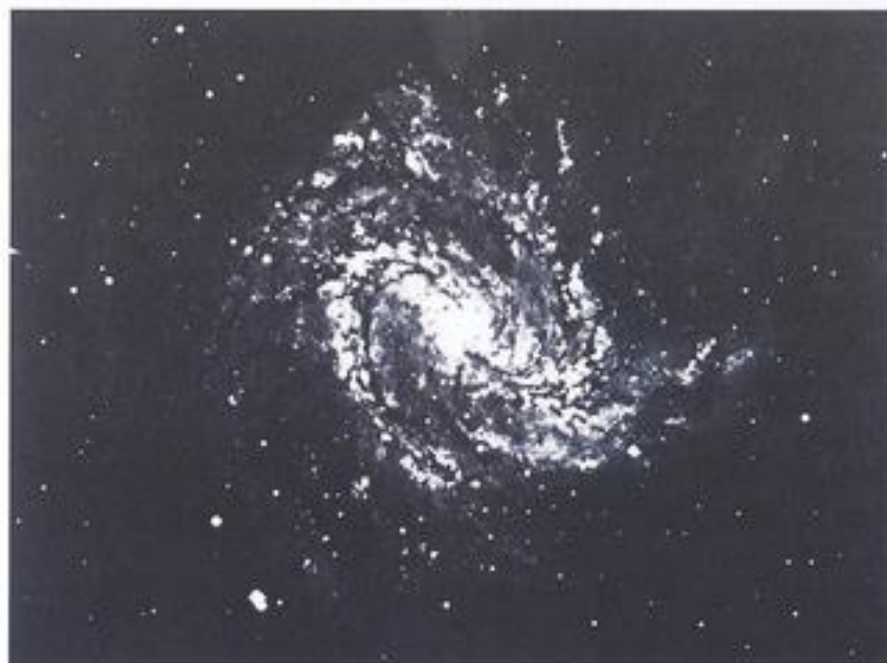
However, if the Dark Matter is warm or hot then it means its particles are in rapid motion and that it is experiencing an important activity. Thus, it generates a strong gravitational pull which forces stars into the



galaxies and acts to equilibrate the universe. But if this were true, the particles of this matter should have been discovered from the radiation and heat emanating from them. This had not happened, so scientists find themselves faced with a dilemma.

Therefore, scientists re-computed the mass of the material of the visible universe and added the matter contained within Black Holes which are widespread in cosmic space and the matter originating from the explosion of stars between galaxies and the mass of neutron particles floating around in the universe. They also added the numerous radiations from the universe. After all these additions, the mass of the universe still did not exceed thirty percent of the best estimation of what the mass of the universe ought to be. Therefore seventy percent of the mass is "missing".

Confronted with this dilemma some scientists proposed an explanation of the nature of the structure of this Dark Matter: Summarily, the existence of a new type of particle in the structure of the Dark Matter. These particles are known as Weakly Interactive Massive Particles or WIMP for short. However, these particles have yet to be

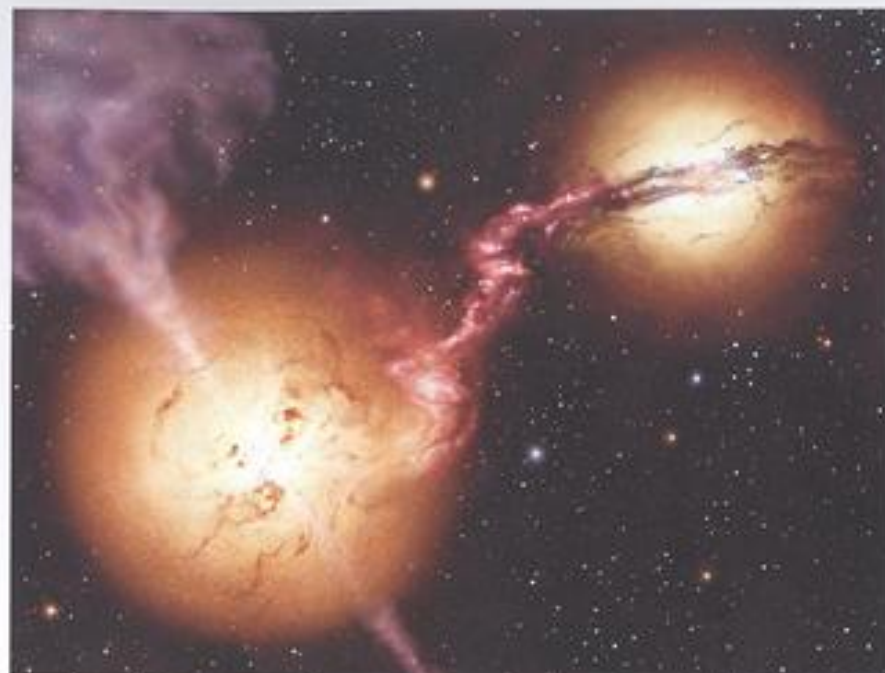




discovered by any sensing instrument.

Some other scientists proposed that this matter could be a type of cosmic strings which to an extent resemble long strings of DNA that carries the hereditary traits of man within the protoplasm. So also are these strings which link between galaxies and stars within galaxies. Since the nineteen eighties (1980s) scientists began researching several unfamiliar things which may make up the constituents of Dark Matter. The theory of White Holes emanated from these investigations on the basis that each galaxy contains at its core a white hole possessing extremely high density which makes the galaxy expand (by trapping material). However, we do not see this hole or perceive it contrary to the black hole, which we observe with tremendous amount of radiation, which emanate from it when it surrounds and swallows a huge neighboring star.

We do not see white holes or perceive them because its infinite density traps all light. However, it expands the galaxy by equilibrating, consolidation and gravitational pull by which it preserves the stars in its sphere of influence. But the problem is that all these theories do not explain to us the origin of these white holes as we know of Black Holes. The issues of Dark Matter and missing mass remain perpetual puzzles which baffle astronomers and they are still searching for an explanation. And Allah, the Exalted, knows best and He is the Best Judge.



Galaxies in the collision

## Holes in the Universe

The openings in the universe are invisible or more appropriately put are pitch-dark regions. Within a few years, precisely the late seventies and the early eighties, their existence became known following a new mapping of the space to get a three-dimensional map of space.

Astronomers were surprised by the presence of several openings as though space was filled with them. This map was re-constructed in more detail and accuracy to include galaxies which were over a billion light years away. The initial doubts turned into reality as it became clear that vast majority of galaxies, if not all, fall on the flanks of gigantic opening whose diameters are up to one hundred and fifty million light years and which may contain no radiating matter. In 1981, a gigantic opening with a diameter of two hundred and fifty million light years was discovered in the stellar constellation known Buwaitis.



It is surrounded by a wall of galaxies. Its center is observed to be free of galaxies. In 1989, a larger wall of galaxies with a length of greater than five hundred million light years, its width about two hundred million light years and a thickness of roughly fifteen million light years was discovered. This wall, known as the Great Wall contains numerous gigantic galaxies. These series of discoveries led to the belief that the universe was made of openings with galaxies on their fringes. The similitude is as a piece of natural sponge which is made up of many holes surrounded by walls of sponge.

Astronomers and physicists at present are attempting to explain the mystery of these openings and their existence. A strong proposed interpretation of these openings is what is known as Cold Dark Matter. It is (thought to be) made up of matter which is not dense (dispersed) nor ablaze (glowing) in the form of stars and galaxies. These openings could contain Black Holes, which swallow anything coming close, be it luminous matter or non-luminous matter. Even light radiations are unable to escape due to the strength of its gravitational force. We cannot describe more profoundly the nature of the Cold Dark Matter. Till date no one has been able to establish its existence. It is possible for science to improve its understanding about the material constructions of these openings and whether or not they contain black holes by detailed and lengthy study of the motions of galaxies which make up those holes and whether they are orbiting the centers of the openings or are gravitating towards it and the speed of revolution or gravitation.

Returning to the Verse, which mentions openings in the heavens:

﴿أَفَلَمْ يَنْظُرُوا إِلَى السَّمَاءِ فَوْقَهُمْ كَيْفَ بَدَأْنَاهَا وَرَزَقْنَاهَا وَمَا لَهَا مِنْ فُرُوجٍ﴾

"Have they not looked at the heaven above them how we have made it and adorned it, and there are no rifts in it." (Soorah Qaf 50:6).

The vast majority of the scholars of *Tafseer* have interpreted: "and there are no rifts in it" that "maa" here is one of negation, i.e., the heavens (cosmic space) are free of openings (holes) which would result in a weakness in its structure. However, science presents us another interpretation which (could) indicate that the "maa" in the last sentence in the last Verse quoted is that of a relative pronoun with the meaning:

that which and not "maa" that shows negation. Therefore, the Verse would read as "Have they not looked at the heaven above them, how We have made it and adorned it?" and "Have they not looked at the openings of the heaven." In fact, the Verse is more synchronic in this form with its astonishment context as the Verse begins with, "Have they not looked...?" These openings assist us in understanding the Verse and (Allah know best); it appears to be the intent of the Verse. The construction and the documentation of the Verse in this syntax which allows for the possibility

of the two interpretations is one of the linguistic miracles of the Qur'an and a proof of the possibility for our understanding of the meaning of the Qur'an to advance. Had the verse come with the syntax: "Have they not looked at the heaven above them how We have made it and adorned it, and We made for it no openings" then this would have been a clear (incontrovertible) negation of their existence. Then astronomers in modern times would have opposed the Qur'an, saying science has proved the existence of these openings. How can

the Qur'an negate it? And were the Verse to mention it (opening holes) in an affirmative manner saying: "Have they not looked at the heaven above them, how We have made it and adorned it, and how We have made therein rifts." Then the Bedouin, rather all who look up the sky with unaided eyes, would have wondered (at the meaning of the Verse). He would see a blue homogenous and perfect sky in daytime and a dark sky in every direction at night beautified with lamps. Then he would



Black hole in the Universe



question in confusion: I do not see but a beautiful perfect sky, so where are the openings?

The way in which the issue has been mentioned (in the Qur'an) allows every reader no matter the variance of their civilizations or the contrast in their understanding of the Verse to understand it according to their civilizational advancement and contrasting comprehension easily. Thus, the one who sees no openings in the heavens and is unaware of their existence will read the verse with "maa" in the negative context and that concurs with his sighting and knowledge and the one who sees openings in the heavens or knows of their existence reads the Verse with "maa" in the affirmation context and that also concurs with what Allah has made him encompass of knowledge and sighting. Glorified is He Who revealed the Qur'an:

﴿وَالْحَقُّ أَنزَلْنَاهُ بِالْحَقِّ نَزْلًا وَمَا أَرْسَلْنَاكَ إِلَّا مُبَشِّرًا وَنَذِيرًا﴾

"And with truth We have sent it down (i.e. the Qur'an) and with truth it has descended. Add We have sent you (Muhammad) as nothing but a bearer of glad tidings (of Paradise for those who follow your Message of Islamic Monotheism), and a warner (of Hellfire for those who refuse to follow your message of Islamic Monotheism)." (Soorah Al-Isra 17:105).

And the All-Wise, the Mighty spoke Truth when He says:

﴿أَفَلَا يَتَذَكَّرُونَ الْفُرْقَانُ وَلَوْ كَانَ مِنْ عِنْدِ غَيْرِ اللَّهِ لَوَجَدُوا فِيهِ اخْتِلَافًا كَثِيرًا﴾

"Do they not then consider the Qur'an carefully? Had it been from other than Allah they would surely have found there in much contradictions." (Soorah An-Nisa' 4:82).



## The movement of the Sun, its course and its end

### The Wondrous Verses

Allah, Most High, says:

﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَهَا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ﴾

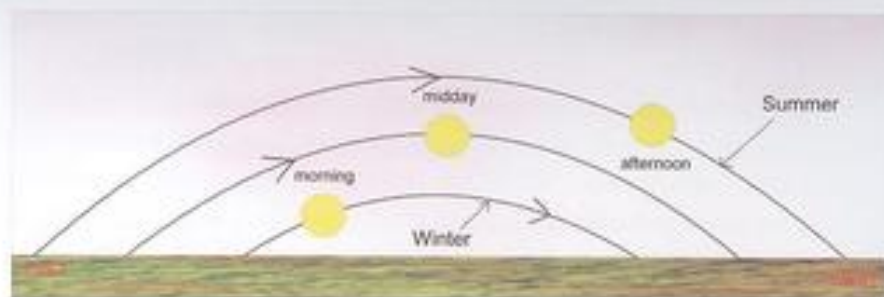
"And the sun runs on its fixed course for a term (appointed). That is the Decree of the Almighty the All-knowing." (Soorah Ya Seen 36:38)

And Allah, the Mighty and Sublime, says:

﴿كُلٌّ يَجْرِي لِأَجَلٍ مُّسَمًّى﴾

"...each running (its course) for a term appointed." (Soorah Ar-Ra'd 13:2).





And He says:

﴿وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"They all float, each in an orbit." (Soorah Ya Seen 36:40)

### Linguistic Interpretation

﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَّهَا﴾

"And the sun runs on its fixed course for a term (appointed)"

i.e. to a place which it cannot transgress (exceed) time-wise or location-wise. It is also said: "to a time, ordained for it."

### A Historical Preamble

The Chinese and Babylonians were able to make predictions using the eclipses of the sun and moon. Then, interest grew at the time of the Greeks and Ptolemaeus, Aristotle and Bathleumus said that the Earth was stationary, that it was the center of the universe and the sun and all other planets revolved round it in a spherical closed and closed universe. In the beginning of the third Century BC Aristarchus (of Samos, the Greek astronomer) postulated another view. He proposed that the Earth revolved around the sun but that the sun was a stationary celestial body. The vast majority rejected this view, accused its proponents of heresy and severely punished them. The situation remained thus until the end of the Middle Ages.

In 1543, Polish scientist Copernicus published his book on astronomy

and planets and established therein the view that the Earth was revolving around the sun. He like his predecessor, Aristarchus, also assumed that the sun was stationary. The theory later became a fact with the invention of the telescope. Scientists began to gradually lean toward this view until the Italian scientist and astronomer, Galileo was able to arrive at this fact via his constant viewing and monitoring of the movement of the planets and stars. This was in the seventeenth century. In the same century, Kepler the German scientist and astronomer concluded that the planets do not orbit the Earth alone but also float in specific elliptical orbits around a center which is the sun.

Things remained in this state until the English scientist Richard Carrington discovered in the middle of the nineteenth century that the sun revolves around itself in a space of time he estimated as twenty-eight days from his study of the black spots

discovered on the sun. This was mentioned by the American space agency NASA. Scientists today believe that the sun has spent half of its lifespan and that it will gradually evolve into an extinguished star after another five billion years, when its energy (heat) would have waned (by cooling) and gases within it would have condensed.

### Scientific facts

- ♦ Kepler discovered that the sun and its associated planets float







Different phases of solar eclipses

around in specific orbits according to precise order.

♦ Carrington discovered that the sun revolves around itself and that the sun will soon be extinguished when its fuel and energy are exhausted. Then it will join the ranks of Dwarf Stars and then die out.

#### Scientific Explanation

Allah, the Mighty and Sublime, says in His Magnificent Book:

﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَهَا ذَلِكَ تَقْدِيرُ الْعَزِيزِ الْعَلِيمِ﴾

"And the sun runs on its fixed course for a term (appointed). That is the Decree of the Almighty, the All-Knowing." (Soorah Ya Seen 36:38).

The Verse indicates that the sun is in a state of continuous motion until it gets to the final resting place ordained for it. This Qur'anic fact was not known to modern science until the nineteenth century when Carrington discovered that the sun and its planets all revolve in specific orbits according to specific perfect order. This is in confirmation of Allah's Words:

﴿كُلٌّ يَجْرِي لِأَجَلٍ مُّسَمًّى﴾

"Each running (its course) for a term appointed."

(Soorah Ar-Ra'd 13:2).

So, what is the scientific explanation of the sun's motion? The sun is

a regular star located within the exterior third of the transverse disc of the Milky Way galaxy as mentioned in the American Encyclopedia. The sun moves at a speed of two hundred and twenty million kilometers per second around the center of the Milky Way galaxy, which is  $2.7 \times 10^{17}$  kilometers away from it (i.e. from the sun). Floating along with it are its planets and it completes a revolution around the galaxy every two hundred and fifty million years. Since its birth 4.6 billion years ago, the sun and its planets have completed eighteen revolutions, around the Milky Way galaxy, which itself moves as a group of galaxies. The group moves as a massive accumulation of galaxies and this massive accumulation moves as a more gigantic accumulation. Thus, every celestial body in the universe runs, revolves and floats about. We find the scientific meanings in Allah's Words:

﴿وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"They all float, each in an orbit." (Soorah Ya Seen 36:40)

But where is this final resting place which the Noble Qur'an talks about in the Words of Allah, the Exalted:



Different phases of moon eclipses



﴿وَالشَّمْسُ تَجْرِي لِمُسْتَقَرٍّ لَهَا﴾

"And the sun runs on its fixed course for a term (appointed to a final resting place)."

Astronomers estimate that the sun is floating toward a time when its fuel is exhausted and it is extinguished. This is what scientists have offered as the final state of the sun. When added to the discoveries of the twentieth century that just as all other creatures grow, age and then die out, scientist at NASA have mentioned that when the energy of the sun is exhausted, it will join the rank of Dwarf Stars and die out. At its death, the possibility of life on the Earth will vanish. However, when this will happen is unknown to anyone except Allah, Who said:

﴿يَسْأَلُونَكَ عَنِ السَّاعَةِ أَيَّانَ مُرْسَاهَا قُلْ إِنَّمَا عِلْمُهَا عِنْدَ رَبِّي لَا يُجِيبُهَا لِوَفَاءٍ إِلَّا هُوَ﴾

"They ask you about the Hour (Day of Resurrection). When will be its appointed time? Say: 'The knowledge there of is with my Lord (Alone). None can reveal its time but He'..." (Soorah Al-A'raf 7:87).

#### Scientific References

NASA stated that the sun revolves in the same direction as the Earth names the Carrington Revolution, named after the Richard Carrington, who was the first to observe the sun's orbit (about itself) every twenty-seven or twenty-eight days.

The American Encyclopedia states that our



Complete solar eclipse

galaxy, the Milky Way, contains about one hundred billion stars and all these stars revolve along with the gases and cosmic dust between them around the center of the galaxy.

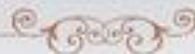
NASA also mentions that the sun has existed for 4.6 billion years and it possesses enough energy to exist another 5 billion years from the present.

#### Point of Wonder

The miraculous point in the Verse is that it establishes that the sun is moving and floating in the universe. This is what modern astronomy has discovered several centuries after the revelation of the Qur'an.







Alien civilization trying to contact other intelligent life forms in the Universe

## Intelligent Life Forms in the Universe

Qur'anic indication of intelligent Life-Forms in the Universe

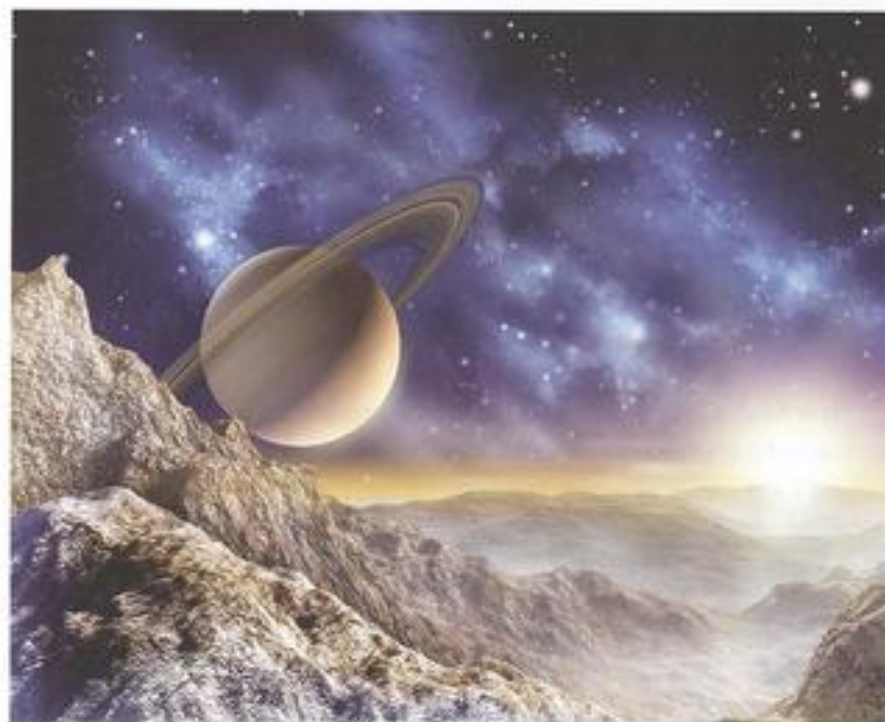
By: Dr Muslim Shaltoot,  
Lecturer in Solar and Space Science,  
National Institute for Astronomical Research, Hulwaan.

The greatest proponent of the belief in the existence of other intelligent life forms in the universe was the American scientist Dr. Carl Edward Sagan, the director of the Laboratory of Planetary Studies at Cornell University. He has an Indian origin. The indifference of some scientists and philosophers in the west to Carl Sagan's research into the existence of other intelligent life-forms in the universe and



the possibility of communicating with them is due to the fact that Hinduism and Buddhism as religions do not limit contemplating intelligent life to other than man. But the heavenly revealed religions (Judaism, Christianity and Islam) prevent contemplating the existence of other intelligent life-forms other than man on Earth. Astronomical observations using the space probe Hubble launched by NASA in the eighties show the number of stars in the visible universe as 10 billion. If the possibility of intelligent life-forms were one in every billion of planets which orbit stars in a manner similar to the planets of our Solar System, and if the number of stars in our galaxy alone is two hundred billion, then the possibility of intelligent life form in our galaxy would be two hundred planets. This is theoretically speaking.

Practically, however, the Green Bay Observatory, in Virginia, America, was established in 1960 with the objective of listening in space using artificial radio waves. In respect to humanity, this was the first





cautious research attempt to communicate with existence elsewhere in the universe. The signals travel at the speed of light and reach twenty stars every year. In 1979, the University of California in Berkley, United States, commenced a study of radio signals from beyond the Earth for previous intelligent life-forms. Currently, the largest antenna (a dish three hundred meters in diameter) is found in the city of Puerto Rico on the Caribbean Sea. It is connected to a super computer (with extraordinary computer speed) to capture any radio signals from the minutest wave lengths (as small as a millimeter) to long wave lengths (kilometers in length) resembling artificial signals from other intelligent creatures in the universe.

Though the existence of other intelligent life-forms in the universe is yet unproven, however most scientists researching the existence of other intelligent life-forms in the universe anticipate that the twenty-first century is the century of breakthrough in communicating with such creatures.

Since the Qur'an has preceded science in establishing several truths which science only discovered centuries later, it is not strange that the Qur'an should inform us and inform man (for the guidance of whom it came) of something which science is yet discover. For example, the existence of life-forms in the heavens similar to that on Earth as in Allah's statement:

﴿اللَّهُ الَّذِي خَلَقَ سَبْعَ سَمَوَاتٍ وَمِنَ الْأَرْضِ يَنَزِّلُ الْمَطَرُ بِهِنَ يَعْمَلُونَ  
أَنَّ اللَّهَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ وَأَنَّ اللَّهَ قَدْ أَحَاطَ بِكُلِّ شَيْءٍ عِلْمًا﴾

"It is Allah Who has created seven heavens and of the Earth the like thereof (i.e. seven). His command descends between them (heavens and Earth), that you may know that Allah has power over all things and that Allah surrounds (comprehend) all things in (His) knowledge." (Soorah At-Talaq 65:12).

This Divine order indicated in this Verse must surely refer to intelligent beings present upon these other planets beyond our Solar System and it is possible that scientists in future will discover it when

the time is right for human information. This anticipation of life in space similar to that on Earth is supported the statement of Allah, Blessed and Exalted is He:

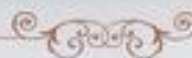
﴿وَقَبْلَ بِسْمِ اللَّهِ مَنْ فِي السَّمَوَاتِ وَالْأَرْضِ طَوْعًا وَكَرْهًا وَظِلَلُهُمْ بِالْغُدُوِّ وَالْآصَالِ﴾

"And before Allah (Alone) falls in prostration whoever is in the heavens and the Earth, willingly or unwillingly and so do their shadows in the mornings and in the afternoons." (Soorah Ar-Ra'd 13:15).

Truly, the Qur'an is the everlasting miracle of Allah and it is the singular Divine Book which has not changed and which concurs with modern science, never conflicting with it.







## The Birth of the Universe

This enormous and vast universe whose limit is not known to man has been an object of query and curiosity for ages. The questions surrounding it in the mind are numerous and complex. For example: how did this universe come into existence? What is its age? Did it have an origin or is it primordial and eternal?

These are some of the questions, which have been a point of contention between Muslim philosophers for hundreds of years. As for atheistic (unbelieving) philosophers, they have claimed that the



universe requires no creator because its matter is eternal (i.e. has always existed). Therefore, they have attributed to matter one of the attributes of the Creator and that is eternity. This is why one of their principles of physics is that: "Matter can neither be created nor destroyed."

Imam Ali Hamid Al-Ghazali, may Allah have mercy upon him, was the first person to resolve the problem of an ancient (eternal) universe and respond to all questions relating to the interval of omission i.e. the intervening period of time between eternity and the creation of the universe. Thus, he said that the universe came into existence and that time did not exist before it, i.e., time and space started after the creation of the universe because time is inextricably linked with motion. Were we to imagine that everything in the universe stopped moving then time itself will pause, meaning then there will be no time. So, it is erroneous to contemplate the existence of time before the creation of the universe.

Since the theory of relativity indicates that time is the fourth dimension, it is intuitive, therefore, that time should not exist in a universe whose other dimensions have not come into existence (xyz-dimension coordinates). We do not intend here to delve into the finesse of philosophy, which could bore the reader and be of no benefit to him. Rather, we wish to point to another scientific theory about the birth of the universe and how it establishes, using scientific evidences that the universe had a beginning and that it came into existence some billions of years ago.







### The universe: Between stationary and motion

In reality, the discovery by man of the phenomenon of radiation was the first blow dealt to the theory of eternity of matter. So long as the sun and all other stars are blazing and emitting radiation, then necessarily they must have a beginning. Had they existed from eternity then their fuel would have been exhausted billions of years ago. However, atheistic scientists deliberately ignored this fact and continued to defend their opinion that the universe is external and requires no creator.

The steady state theory, which was the acceptable theory in scientific circles in the middle of the twentieth century, states that the universe is stationary and was infinite time-wise and spatially. This is an example of theory of origin of the universe, which serves as an acceptable reference (for their modern theory) or at least does not negate the most important claim of theirs -- the eternity of matter.

However, physics presents important means of knowing several characteristics of celestial bodies and stars. In 1913 Vesto Melvin Slipher, an American astronomer, discovered that some of the bodies previously thought to be cosmic dust are moving away from us at a speed of one thousand eight hundred kilometers per second. This discovery came as a big surprise to scientists and these bodies turned out to be galaxies distant from us. Therefore, Edwin Hubble in 1929 published his famous rule: "Galaxies move away from us at speeds directly relative to their distance from us."

It later became clear that galaxies are not only moving away from us, they are also getting farther from each other. And this means that the universe is continuously and constantly expanding in confirmation of Allah's Words.

﴿وَأَنشَأْنَا بَيْنَهُمَا بَآئِنًا وَوَلَّأْنَا لَكُمُوعُونَ﴾

"With power did We construct the Heavens. Verily, We are able to extend the vastness of space thereof." (Soorah Adh-Dhaariyat 51:47).

### The Primordial Broth

Since the universe is constantly expanding, were we to rewind a film (of its history), then necessarily we would find the entire universe was in the past centered at a simple point known to scientist as the Primordial Atom or Primordial Broth. Other scientists opine that the size of this point is equivalent to a zero (0) and its mass was infinite. This is another way of saying the universe originated from nothing as this is the meaning of its size just equal to a zero.

However, what sort of power is capable of hurling a hundred billion



galaxies with such extreme speed, locating one at a great distance from the other, thereby building such an expansive universe? It is not possible that it is the force of gravitational pull or the repulsive force between like charges. The gravitation pull is one that attracts celestial bodies toward a center and does not fling them outward. Likewise, the repulsive force between like charges are much too weak to affect this scenario. Considering, the balance of charges (between positive and negative) in the universe, this kind of force is virtually nonexistent between celestial bodies.

Therefore, a huge explosion must have occurred at the birth of the universe and it was responsible for the expansion of universe. Scientists have named this huge explosion the "Big Bang". After some revisions of the "Big Bang" theory, its actual wordings read summarily as: "A huge explosion occurred to this Primordial Atom which contained all material and energy contained in the present universe. In the first moments of the huge explosion, its temperature rose to several trillions of degrees when the parts of atoms (neutrons, protons and electrons formed) and these formed the atoms. These atoms made up the cosmic dust from which the galaxies originated thereafter."

#### When was the explosion of the Universe?

When did this "Big Bang" occur? There is no certain date yet. However, if we recall that Hoyle's estimate for one million light years is 15.3 kilometer per seconds, we get a figure of twenty billion years. However, we should not forget that the speed of expansion of the universe and spacing of the galaxies is not constant. It was faster in the past. Thus the history of the universe is at least greater than fifteen billion years. This is the strongest opinion presently. One of the evidences of the "Big Bang" theory is the existence of cosmic radiation. Scientists have said that an explosion like this must necessarily leave behind radiation. These radiations were detected when NASA launched an artificial satellite into space in 1989 for confirming the existence of these radiations. It was equipped with modern sensor gadgets. This artificial satellite required only eight minutes to detect this radiation and measure it.

Another evidence in support of this theory is that the relative amount of

gaseous hydrogen and helium in the universe concurs with the estimation (of relative abundance) according to this theory. Were the universe eternal (existed from eternity) then all its hydrogen would have combusted and turned to helium.

#### Proponents of eternal existence (of the universe) in dilemma

The importance of the "Big Bang" theory is not restricted to the fields of science and astronomy alone; it also dispossessed philosophers and atheistic scientists of a weapon or let us say an excuse upon which they used to depend because it ended the myth of eternity of matter and the universe.

This theory has vexed several scientists and atheistic philosophers. For example, the atheist philosopher, Anthony Phillip, said: "They say: Awareness benefits man from a psychological perspective and I shall base my opinion upon awareness. The example of the 'Big Bang' is something really embarrassing to free thinkers because science is affirming an idea which the religious books defend...the idea that the universe had a beginning." The scientist, Denis Zikmor, (one of the strongest proponents of the theory of a stationary non-evolving universe) said: "I did not defend the theory of a stationary universe because it was correct, but because I hoped that it was correct. However, after the accumulation of evidence, it has become clear to us that the fun was over and it was necessary to completely abandon this theory of a stationary non-evolving universe."

Added to the fact that matter was created and not eternal and that the universe has a beginning it indicates the existence of a Creator, and that the universe was created by a Creator. The nature of this 'Big Bang' adds another evidence that the universe was created according to precise measurements and with admirable order. This is because an explosion is always destructive, devastating, dispersive and scattering matter. However, when we observe an explosion of such severity and shock resulting in the formation and construction of a perfectly ordered universe, then there must be behind it a Powerful Hand, Knowledge, Design and Infinitely accurate estimation greater than the ordinary. This is what the renowned British scientist, Fred Hoyle, points to when he said: "The Big Bang theory tells us that the universe originated from



a huge explosion and we all appreciate that every explosion shatters and disperses matter without any order. However, this huge explosion resulted in the opposite (i.e. it spread matter in an ordered fashion). It acted upon matter in such a way shrouded in mystery, organizing matter to form galaxies."

#### The speed of expansion of the universe

One of the most significant mysteries of this "Big Bang" is the momentousness of expansion speed which it bequeathed to the universe after the explosion. This is what the renowned British scientist, Bull Davis, refers to when he said: "Computations have indicated that the rate of expansion of the universe is of extreme significance. If the universe expanded at a rate just a little slower than its present speed, then the universe would collapse inward due to the strength of gravitational attraction. And if the rate of expansion were to be just a little greater than its actual speed, then the matter of the universe would have been dispersed and the universe shattered. Were the speed



Space and astronomy. A congestion of stars

of the expansion to differ from its known speed by one in  $10^{18}$  parts, then it would have being sufficient to breach the necessary equilibrium. Therefore, the 'Big Bang' was not a normal explosion but rather an extremely well-calculated and organized activity in all spheres."

What can we derive from all these comments and scientific facts? Davis explains the inevitable and indisputable conclusion from all these evidences: "It is really difficult to deny that an intelligent reasonable power originated this universe which depends (for stability) on well-determined perceptible computations. Definitely, the extreme variations in observable numerical values (of various parameters) and of things related to the equilibrium of the universe is a very strong evidence for the existence of a design for the scope of the universe."

As for the physicist, Steven Hawking, when discussing in his book *A Brief History of Time* the amazing finesse of the speed of expansion of the universe in the first instant of the huge explosion said: "The speed of expansion of the universe is so significant that had it been at the first instant of the explosion less by a fraction of 1 part in  $10^{18}$  parts, then the universe would have collapsed upon itself before reaching its presents extent."

Therefore, this is the extent of amazing detail involved in the ordering of this "Big Bang" explosion and in the design of its speed.

The final conclusion reached by the American astronomer George Gamow in his book *Symbiotic Universe* is: "The more we examine the evidences closely the more we are constantly faced with the reality itself, that there is an intelligent power beyond nature which interfered in the origination of the universe."

﴿قَالَتْ رُسُلُهُمْ أَفِى اللَّهِ شَكٌّ فَأَمَّا السَّمَوَاتِ وَالْأَرْضِ﴾

"Their messengers said: 'What! Can there be a doubt about Allah, the Creator of the heavens and the Earth? ...' (Soorah Ibrahim 14:10).

(Aurakhaan Muhammad Ali/Istanbul).





## The Great Explosion

### The verses of wonder:

Allah says:

﴿أَوَلَمْ يَرِ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتْ رَتْقًا فَفَتَقْنَاهُمَا﴾

"Have not those who disbelieve known that the heavens and the Earth were joined together as one united piece, then We parted them?" (Soorah Al-Anbiya' 21:30).

### Linguistic Explanation

Ibn Mundhir said in *Lisan Al-'Arab*: "Ratqan"<sup>1</sup> - "Ar-Ratqu" (patched

<sup>1</sup> The *Talbiyah* which commences from the time of taking up the *Hram* (the state of ritual consecration) at the *Meeqat* (stations) should actually be stopped shortly before the commencement of the circumambulation of the Ka'bah.

together) this is the opposite of "Al-Fatqu"<sup>1</sup> (to fissure).

Ibn Sayyidihi said: "Ar-Ratqu" means to patch a tear and mend it... and "Al-Fatqu" - (to fissure), is its opposite.

### The understanding of scholars of Tafseer

Imam Ar-Raazi said while explaining Allah's Words:

﴿أَوَلَمْ يَرِ الَّذِينَ كَفَرُوا أَنَّ السَّمَوَاتِ وَالْأَرْضَ كَانَتْ رَتْقًا فَفَتَقْنَاهُمَا﴾

"Have not those who disbelieve known that the heavens and the Earth were joined together as one united piece, then we parted them?"

that the "Scholars are divided on what is intended by *Ar-Ratqu* and *Al-Fatqu* upon a number of opinions:

**First:** This is the opinion of Al-Hasan, Qatadah, Sa'eed Ibn Jubair and one of 'Ikrimah's narrations from Ibn 'Abbas, may Allah be pleased with him': "The meaning is that both (heaven and Earth) were one single contiguous entity, then Allah separated between them and raised the heavens to where it is (now) and left the Earth (in its position)." This opinion necessitates that the creation of the Earth preceded that of the heavens because after separating between them Allah left the Earth in place and then raised the (different) parts of the heavens. Ka'ab said: "Allah created the heavens and the Earth as one contiguous piece, and then He created between them a wind and parted them thereby." **Second:** This is the opinion of Abu Saleh and Mujahid that the meaning is that: "The heavens were raised and made into seven heavens and so also the Earth." **Third:** This is the opinion of Ibn 'Abbaas, Al-Hasan and the majority of the scholars of *Tafseer* that: "The heavens and the Earth were unified, homogenous and solid entities, then Allah cleaved the sky with rain and the Earth with plants and trees." This is similar to Allah's statement:

﴿وَأَنزَلْنَا مَائِدَتَهُمْ ﴿١١﴾ وَالْأَرْضَ ذَاتَ الْأَعْنَاقِ﴾

"By the sky (having rain clouds) which gives rain, again and again.

<sup>1</sup> *Al-Fatqu* is the word translated as "parted them" in the Verse.



And the Earth, which splits (with the growth of trees and planets).” (Soorah At-Tariq 86:11-12).

They preferred this opinion to others because of Allah’s statement thereafter:

﴿وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ﴾

“And We have made from water every living thing.” (Soorah Al-Anbiya’ 21:30).

This is because, (they opined) that the water must necessarily be in reference to what was mentioned previously (that the sky was cleft asunder with rain and the Earth with planets and trees) and this is not possible except what we have stated (of interpretation) is correct.

**Fourth:** This is the opinion of Abu Muslim Al-Isfahani: “It is possible that the intended meaning of *Al-Fatq* (cleaved) is creation and manifestation as in His statement:

﴿قَالِطَرِ السَّمَوَاتِ وَالْأَرْضِ﴾

“The (only) Creator of the heaven and the Earth...” (Soorah Yusuf 12:101).

And His statement:

﴿قَالَ بَلْ رَبُّكُمْ رَبُّ السَّمَوَاتِ وَالْأَرْضِ الَّذِي فَطَرَهُمْ﴾

“He said: certainly your Lord is the Lord of the heavens and the Earth, He Who created them.”

Thus, He (Allah) informed of its creation by the word *Al-Fatq* and its state before creation as *Ar-Ratq*.

I (i.e. Ar-Razi) then say: The fact of the matter is that nonexistence is denied, so it did not have in it things of particular attributes or different notable entities, rather it was like a single thing together and similar. So, when the realities are attained, at existence and nascence a part

becomes distinguished from the other and separated from one another. Based on this, it is good to consider *Ar-Ratq* a figurative expression for nonexistence and *Al-Fatq* a figurative expression for existence.”

At-Tabari said in his explanation of the Verse: “*Fafataqunahuma*”: i.e. we cleaved them asunder and parted them. Scholars differ concerning why Allah described the heavens and the Earth with *Ar-Ratq*, the nature of *Ar-Ratq* and the meaning of *Al-Fatq*? Some opined that: it meant that the heavens and the Earth were a single contiguous piece, then Allah parted between them using air. This is the opinion of Ibn ‘Abbaas, Al-Hasan and Qatadah. Others opined that: Rather, the meaning is that the heavens were a homogenous undifferentiated entity; then Allah cleaved it and made of it seven heavens and similarly the Earth was a single undifferentiated entity and He made seven Earths. This has been narrated from Mujahid, Abu Saleh and As-Suddi.

Still others opined that: Rather, the heavens were fused solid without giving rain, likewise the Earth was fused solid without any plant sprouting. Then the sky was cleaved with rain and the Earth with plants. This has been narrated from ‘Ikramah, ‘Atiyyah and Ibn Zayd. Abu Ja’afar Al-Tabari said: The most correct of these views is that which says the heavens and the Earth were fused solid without giving rain or plants and then we cleaved the sky with rain and the Earth with plants. We say this is the most correct because of the indication of Allah’s Words:

﴿وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ﴾

“And We have made from water every living thing.”

Al-Qurtubi also preferred this explanation in his *Tafseer*.

#### Historical Preamble

It is possible to go back to the first human conceptions of the origin of the universe in the Stone Age, i.e., several hundreds of thousands of years ago, when superstitions dominated human imagination and the



development of his intellect, particularly in the ancient Egyptian and Babylonian civilizations. Amongst them, the popular belief was that a link existed between a stationary (non-evolving) universe and the myriad deities which dominated it. Greek and Roman philosophers had endeavored to formulate theories about the phenomena of the universe while the knowledge of astrology aided the Hindu and Chinese civilizations.

The general characteristics, which impressed upon the perceptions of the universe in ancient civilizations was its link with the world of deities and the firm belief in the existence of a fundamental difference between the Earth and the heavens. These did not permit the propositions of theories about the universe and how it originated. However, after important advancements in field of astronomy in the twentieth century on the platform of the theoretical sciences coupled with the theory of relativity which led to the development of genuine study of the universe, and on platform observations coupled with significant discoveries about the mysteries of space, it became inevitable to formulate a general theory which would incorporate all discovered facts and serve as a precursor to a homogenous standardized concept explaining the most significant phenomena of the universe including its origin.

In 1927, the Belgian priest George Lemaitre proposed a new picture of the origin of the universe and its development. George Gamow the American physicist (originally of Russian origin) agreed with him and advanced the several concepts developed of the Lemaitre theory.

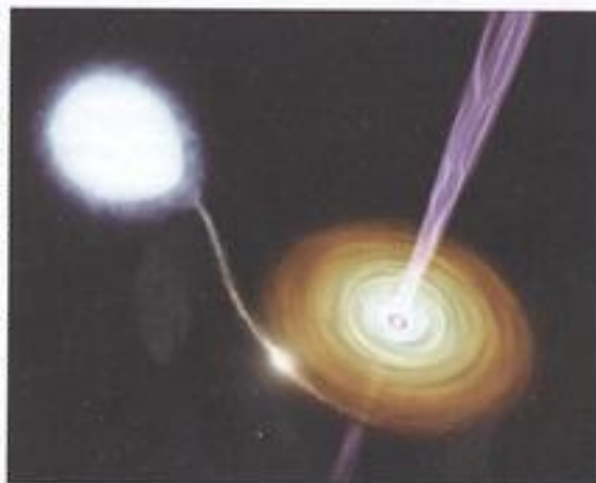
#### Scientific Facts

In 1927, Lemaitre presented the "Big Bang". In 1964, two scientists, Penzias and Wilson, discovered radio waves emanating from all directions of the universe possessing the same physical characteristics at all locations where they were recorded. It was named petrified light and is light coming from the distance past; a relic of a huge explosion which occurred at the origin of the universe.

In 1989, NASA sent its artificial satellite into space, which sent back three years of detailed scientific information supporting the "Big Bang" theory and the conclusion of Penzias and Wilson. In 1989, a Soviet space station sent back information, which supports the "Big Bang" theory.

#### Scientific Explanation

The issue of the origin of the universe is one, which both philosophers and scientists have postulated severally, but everything was haphazard. Theories and concepts (about the origin of the universe) had proliferated before Lemaitre in 1927 proposed that the universe was initially a huge mass of dense, glowing and hot gaseous material, which he called the Universal Egg. Thereafter, due to extreme pressure resulting from high temperatures a huge explosion occurred within this mass. This



Gaseous material, Universal Egg

crumbled it and flung it along with its various parts in all direction. Thereafter, planets, stars and galaxies formed from it with the passing of time. Some scientists have named this explosion the "Big Bang". According to current computations by astronomers and physicists, the universe has existed for trillions of seconds. Roughly fifteen billion years ago, its mass was gigantic and extremely hot ball of the size of a ball less than one thousandth ( $1/1000$ ) of a centimeter.

In 1940, the Russian American astronomer, George Gamow, buttressed the Big Bang theory and paved the way for the two scientists Penzias and Wilson in 1964 to detect radio waves emanating



from all directions in the universe and possessing the same physical characteristics at all stations where they were recorded. These waves did not change in characteristics with time or direction. They were, therefore, named petrified light, i.e., light coming from the distance past remnants of the huge explosion which occurred during the first few seconds after the birth of the universe.

In 1989, NASA sent its artificial satellite, which sent detailed information back to the Earth after three years buttressing the theory. This discovery was tagged "the Discovery of the Twentieth Century". This scientific fact was mentioned by the Qur'an fourteen centuries ago, where the thirtieth verse of *Soorah Al-Anbiya'* says:

﴿أَوَلَمْ يَرِ الْآلِينَ كَفَرُوا لَنْ أَسْمَوَاتٍ وَالْأَرْضَ كَانَتْ رَتْقًا فَفَتَقْنَاهُمَا﴾

"Have not those who disbelieve known that the heavens and the Earth were joined together as one united piece. Then We parted them." (*Soorah Al-Anbiya'* 21:30).

The meaning of the Verse is that the heavens along with what it contains of galaxies, planets and stars altogether making up the universe in which we live were originally equivalent to a single contiguous mass. And His saying: *Ratqan* (joined together) since *Ar-Ratq* means together and thereafter a parting and explosion occurred to this mass. Then galaxies, planets and stars formed. This is what astronomers have discovered only at the end of the twentieth century.

Is not this coincidence perplexing to the intellect and inviting it to inquire about the Creator of this universe and its primordial cause? Allah, Most High, says:

﴿الْحَقُّ مِنْ رَبِّكَ فَلَا تَكُنْ مِنَ الْمُتَرَدِّينَ﴾

"(This is) the truth from your Lord, so be not of those who doubt." (*Soorah Aal 'Imran* 3:60).

#### Scientific References

The *Encyclopedia Britannica* mentions that in 1963, laboratories saddled Penzias and Wilson to study radio waves which muddled

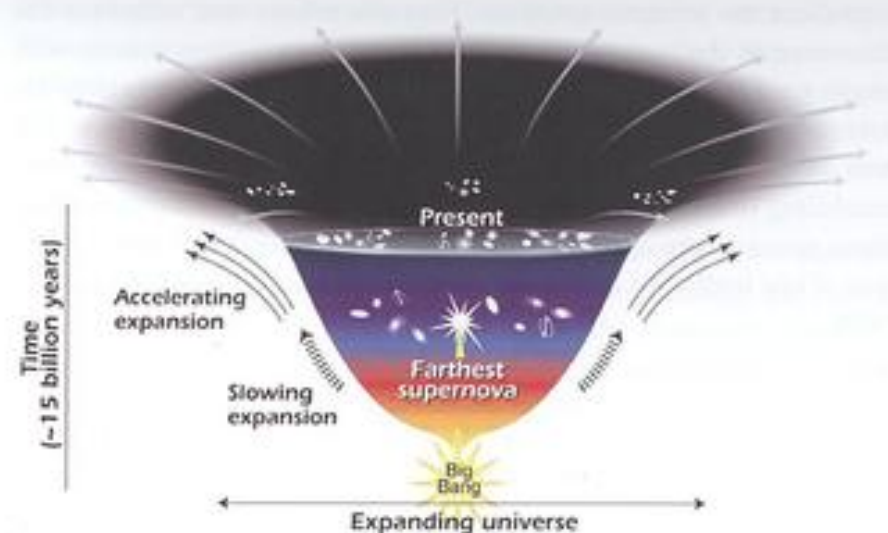
signals of the artificial satellites. They discovered that whatever the direction of the transmitter, it always picks up strong waves with slight muddling even if the sky was clear and conditions suitable for attempting to discriminate the waves from the muddling noise. The two scientists continued to investigate the characteristics of these muddling (interfering) waves. Their most significant discovery about these space waves was one, which proved the "Big Bang" theory to be true. They both won the Nobel Prize for Physics for this discovery in 1978.

#### The Point of Wonder

The point of wonder is that the Verse affirmed that the universe originated from a huge explosion after having been a single contiguous mass. This is what extensive study by astronomers and artificial satellite images have only achieved at the tail end of the twentieth century.







## Expansion of the Universe

### Miraculous Verses

Allah, Most High, says:

﴿وَاللَّعَنَ الَّذِينَ بَنَوْا بَابِلَ وَأَنَا لَمُوسَىٰ﴾

"With power did We construct the heaven. Verily, We are able to extend the vastness therefore." (Soorah Adh-Dhaariyat 51:47).

### Linguistic Explanation

Ibn Mundhir said in *Lisan Al-Arab*:

*Aydin*: *Al-Ayd* and *Al-Aad* all mean power. An example is Allah's statement:

﴿وَأَذْكُرْ عَبْدًا مَّا مَدَّ الْأَيْدِ﴾

"and remember our slave Dawood (David) endued with power." (Soorah Sad 38:17).

That is, he with power. *At-Ta'yeed* is a verbal noun of *Ayyadat-lu*, i.e., strengthened it.

Allah, the most High, says: "...when I supported you with *Rooh ul-Quds (Jibraeel)*", i.e. strengthened you. Abu Al-Haitham said: *Ada - Ya-ee-du* when it becomes strong and *Ayyada - yuayyidu - iyyadan* when it becomes one with strength and *Rajulun Ayyidun* means a strong (man). *Moosi'oan*: extension, opposite of narrowness.

And His saying:

﴿وَاللَّعَنَ الَّذِينَ بَنَوْا بَابِلَ وَأَنَا لَمُوسَىٰ﴾

"With power did We construct the heaven. Verily, We are able to extend the vastness therefore." (Soorah Adh-Dhaariyat 51:47).

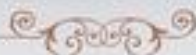
He (Allah) intended to put between it (heaven) and the Earth space.

### The Understanding of the scholars of Tafseer

It is a point of pride (for us, Muslims) to know that the scholars of *Tafseer* and Islamic theology had realized the necessity of the possibility of expansion of the universe. We find in the book *Tahafut At-Tahafut* by Ibn Rushd Al-Hafeez, discussion of the submissions of Abu Hamid Al-Ghazali who speaks from the perspective of Muslim scholars of theology and the refutations of Abu Al-Waleed Ibn Rushd who speaks from the perspective of philosophers.

Abu Hamid Al-Ghazali presented a question: "Was Allah capable of creating a universe bigger than the present one? If the response is in the negative then this implies an incapacitation of Allah. Also if the response was in the affirmative then one agrees that there is space beyond the universe where expansion is possible if Allah willed to increase the size of the universe beyond its present size." As for Ibn Rushd who holds the opinion of Greek philosophers, he posits that increasing the size of the universe or decreasing it from its present size is impossible; because it will be a license which will know no limits (limit to possible available space). Thus the license necessitates an





increase without limit.

What is obvious from this discussion is that despite the absence of detailed facts about the physics of the universe and the forces operating within it, the two Muslim theologians while sticking to the fundamentals of Islamic theology derived in the correct manner from the Qur'an, arrived at issues difficult to comprehend, amongst which is the expansion of the universe. This is a recent issue in scientific research in the twentieth century, but this discussion occurred in the sixth century (Christian era).

Ibn Katheer said while explaining Allah's Words:

﴿وَأَنَّا لَمُبِعُونَ﴾

"Verily, We are able to extend the vastness of the universe thereof",

i.e. We have expanded its dimensions and raised it without pillars until it became separated as it is (now).

#### Scientific Facts

- ♦ In 1929, the American astronomer Edwin Hubble observed via a telescope that the galaxies were moving away from each other at tremendous speeds.
- ♦ The spatial estrangement of the galaxies is a result of the expansion of space (the universe).

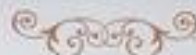
#### Scientific Explanation

Allah, Most High, says:

﴿وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْمُنٍ وَإِنَّا لَمُؤَيَّدُونَ﴾

"With power did We construct the heaven. Verily, We are able to extend the vastness therefore." (Soorah Adh-Dhaariyat 51:47).

The Verse of the Qur'an points to the fact that the universe, here referred to as heaven, is in a state of constant expansion. However, the Qur'an did not explain the details of the nature of this expansion but



only mentions it summarily. When we return to past scholars of *Tafseer* we find that they dealt with this issue.

**What does modern Astronomy have to say regarding this issue?**

In 1929 two astronomers Hampson and Hubble confirmed the theory of an expanding universe through observation. Then Hubble formulated the principle popularly known by his name, the principle of the increasing distance of galaxies relative to our galaxy and relatively to each other. This principle enables the computation of a reasonable estimate of the age of the universe.

Hubble had invited Einstein from Germany to America to show him the increasing spatial estrangement of galaxies and planets using his telescope. The explanation of the phenomena of distancing galaxies is captured by two examples: When there is a source of light in outer space which is moving further away from us, then the light rays weaken and therefore migrate toward red color. But if the source of light is coming closer to us then the recorded migration tends toward blue. The spectral migration becomes perceptible when the speed of motion of the light source is significant when related to the speed of light because it is not possible to observe such for regular relatively slowly moving bodies. This is what physicist Doppler has confirmed.

The motion of spatial estrangement





of galaxies is as a result of the expansion of space itself carrying along with it all galaxies. On a general note, the galaxies, cluster of galaxies and agglomerations of galaxies are similar to the constituents of a gigantic mass of gaseous material, which has not ceased to expand and spread in the universe since the Big Bang occurred in the original gaseous mass. *The Space Encyclopedia* has pointed to all these phenomena.

Finally, we say: The agreement of astronomers in the second half of the twentieth century upon the fact that the universe is expanding defeated the basis of the theory of a stationary (non-evolving) eternal universe and proved scientifically that the universe has a beginning and an end. Allah says:

﴿سَرَّيْنَاهُ مَا بَيْنَنَا وَبَيْنَ الْآفَاقِ وَفِي أَنْفُسِهِمْ حَتَّىٰ يَبَيِّنَ لَهُمُ اللَّهُ الْحَقُّ ۚ أُولَٰئِكَ يَرْفَعُ اللَّهُ عَن كُلِّ شَيْءٍ ذِكْرَهُ﴾

"We will show them Our Signs in the Universe, and in their own selves until it becomes manifest to them that this (Qur'an) is the Truth. Is it not sufficient in regard to your Lord that He is a Witness over all things." (*Soorah Fussilat* 41:53).

#### Point of Wonder

The miraculous point of the Verse of the Qur'an is the syntax of "verily we are able to extend the vastness thereof" which implies the past, present and the future indicating that the universe is in a state of continuous expansion. This is what astronomical observations have revealed only in 1929.



## Computation of the speed of light

### Miraculous Verse

Allah, Most High, says:

﴿يُدِيرُ الْأَمْرَ مِنَّا السَّمَاءُ إِلَى الْأَرْضِ ثُمَّ يَرْجِعُهُ إِلَيْنَا فِي يَوْمٍ كَانَ بِقَدَرِهِ أَلْفَ سَنَةٍ مِّمَّا تَعُدُّونَ﴾

"He arranges (every) affair from the heavens to the Earth, that it (affair) will go up to Him, in one Day, the space whereof is a thousand of years of your reckoning (i.e. reckoning of our present world time)." (*Soorah As-Sajda* 32:5).



### The understanding of the scholars of Tafseer

'Abdullah Ibn 'Abbaas, may Allah be pleased with him, said in his explanation of the Verse: "This is in this world: A speed by which it travels the distance of a thousand years in just one of your days." (See At-Tabari, Al-Qurtubi and Az-Zamakhshari).

Qatadah said: "The length of its journey that day is a thousand years." (At-Tabari mentioned it in his *Tafseer*).

Al-Qurtubi said: "Meaning: in a day the length of which is a continuous journey of a thousand years." Abu Hayyan mentioned in his *Tafseer* that: "The year is based upon the movement of the moon." Al-Bagawi mentioned in his *Tafseer* of the statement of Allah, Most High: "(of your reckoning)", i.e. (reckoning) of the believers.

Al-Qurtubi said: i.e. "of what you estimate."

### Historical Preamble

In 1676, Olaus Roemer advanced the first evidence in history that the speed of light is not perceptible. Attempts at measurement continued for another three centuries until it became dependable in 1983 in Paris when an international value for the speed of light in a vacuum at a value of 299792.485 kilometers per second.

### Scientific Facts

- ◆ Resulting from the proceedings of the International Conference on Measurement and Standards held in Paris in 1983, the speed of light in vacuum is computed to be 299792.458 kilometer per second.
- ◆ The speed of light is the same for all electromagnetic waves and this serves as the upper limit of speed in the physical universe.
- ◆ The speed of all celestial bodies is relative and depends on the motion of the observer and therefore requires specification. However, the speed of light is non-relative and has an established universal value.
- ◆ The length of distance of a month which we reckon (i.e. lunar constellation) is 2152612.269 kilometers.
- ◆ The length of distance of one thousand years is 25.83134723

billion kilometers.

- ◆ The lunar year is based upon the motion of the moon around the Earth.
- ◆ The ordinary distance of the moon travels around the Earth in every month (the length of the lunar orbit) is 2152612.269 kilometers.
- ◆ The average speed of the moon is 86164.9966 kilometers per second.
- ◆ A stellar month is 27.32166 days.
- ◆ The length of the coverage is 2413306.35 kilometers relative to the vehicle speed (its cosine) is 0.89157.

Note: The computation of average orbital speed of the moon is made as though the Earth were stationary which means multiplying the average orbital speed of the moon around a moving Earth by the cosine of the entire angle which the Earth traverses around the sun in a single lunar month.

### Scientific Explanation

In 1676, the astronomer Olaus Roemer presented evidence that the speed of light is not perceptible as mentioned in the *Encyclopedia Britannica*. Thereafter, estimation continued until it was established in Paris in 1983 during an International Conference on Measurement and Standards. The speed of light in a vacuum was established as 299792.458 kilometers per second. This is what scientists have arrived at, at the end of the twentieth century as mentioned in the *Encyclopedia Britannica*.

When we return to the Noble Qur'an, we find that it has given appropriate information which affirms the correctness of what the measurement and standards conference concluded in 1983 in Paris.

The discoverer this time around was one of the Muslim scholars specialized in physics, Dr. Muhammad Dauduh, a consultant to the Scientific Wonder Council. He derived from the Words of Allah in *Soorah As-Sajdah*, Verse 5:

﴿يُدَبِّرُ الْأَمْرَ مِنَ السَّمَاءِ إِلَى الْأَرْضِ ثُمَّ يَعْرُجُ إِلَيْهِ فِي يَوْمٍ كَانَ مِقْدَارُهُ أَلْفَ مَسْجُودٍ مَّا تَدْعُونَ﴾

"He arranges (every) affair from the heavens to the Earth, that it



(affair) will go up to Him, in one day, the space whereof is a thousand of years of your reckoning (i.e. reckoning of our present world time)." (Soorah As-Sajda 32:5).

He derived that the intended affairs are the matters of the physical universe regarding our existence in this world. This has also been mentioned before him by the interpreter of the Qur'an, the famous Companion (of the Prophet), 'Abdullah Ibn 'Abbas, may Allah be pleased with him. It has been narrated from him in his *Tafseer* of "the affair" mentioned in the Verse that he said:

"This is in this world, a speed by which it (matters of the universe) travels the distance of a thousand years in just one of your days." As for that regarding His statement: "of your reckoning", Abu Hayyan Al-Tawhidi said in his *Tafseer*: "The year is based upon the movement of the moon." The meaning of this is that Arabs referenced time to the lunar counting just as they used to reference distances to the time of its traverse, for example saying: "A journey of three days." The Qur'an was revealed in the language of the Arabs and He (Allah) said: "of your reckoning."

Based upon what has preceded, if we know that the speed of a body is traversed distance/time and we recognize the concordance between the approximation of science and that of the Qur'an, then we have the following:

Scientific Proportion (Equations)	Qur'an Proportion (Equations)
Time	In a day whose length thereof (time of an earthly day).
Distance	One thousand years of year reckoning (by lunar counting or calculation) (12000 cycles)
Speed (Distance / Time)	After the universe (one thousand years of your reckoning (12000 lunar cycles) /time of an earthly day.



Sunlight takes about 8 minutes, 19 seconds to reach Earth

By substituting figures into the equation (see *Al-Haqa'iq Al-'Ilmiyyah li-Tafseer Al-Arqam*). The physical speed of the affairs of the universe.

♦ This value of the speed of the affair of the universe agrees perfectly with the speed of light announced at the International Conference in 1983 in Paris.

The astonishing results of this research have been presented to specialists in Physics at the Faculty of Science at King Abdul-Aziz University in the Kingdom of Saudi Arabia. They concurred with it from a scientific viewpoint. This was also approved from the linguistic and *Tafseer* viewpoint from a section of Umm Al-Qura University, Department of Language and *Tafseer* in Makkah. Therefore it obtained approval from all quarters.

Thus Noble Qur'an confirms the most important principle known to man in the twentieth century. Is this not a miraculous scientific precedence mentioned by the Noble Qur'an?

﴿قُلْ إِي وَرَبِّي إِنَّهُ لَحَقٌّ﴾

"Say: 'Yes! By my Lord! It is the very truth!'" (Soorah Yunus 10:53).



Allah, Most High, also says:

﴿لِكُلِّ نَبَأٍ مُّسْتَقَرٌّ وَسَوْفَ تَعْلَمُونَ﴾

"For every news there is a fact, i.e., for everything there is an appointed term..." (Soorah Al-An'am 6:67).

He also said:

﴿وَبَرَى الَّذِينَ أُوتُوا الْعِلْمَ الَّذِي أُنْزِلَ إِلَيْكَ مِنْ رَبِّكَ هُوَ الْحَقُّ وَيَهْدِي إِلَى صِرَاطٍ مُّبِينٍ﴾

"And those who have been give knowledge see that what is revealed to you (O Muhammad) from your Lord is the truth, and guides to the path of the Exalted in Might, Owner of all praise." (Soorah Saba 34:6).

#### Miraculous Point

The miraculous point in the verses of the Noble Qur'an is that it defined the minimum limit of universal speed in a vacuum as equivalent to the revolution of the moon around its orbit twelve thousand times. Therefore, Dr. Muhammad Daudah derived the estimation of the correct speed of the divine affair. Daudah found that the Qur'an's value coincided exactly with value (of the speed of light) announced by the International Conference on measurement and Standard in Paris in 1983 which is 299792.458 kilometers per second.



## All Float Around In Orbit

One of the characteristics of the universe is that every component and all parts of these components – even those not greater than an atom are all in continuous motion, never stopping except by the command of Allah, the Creator of the heavens, the Earth and that is between them. He is its Sustainer. This motion is not governed by coincidence or due to causes emanating from the nature of matter as atheists insinuate. Rather, these are motions legislated and ordered by Divine Wisdom. It is a phenomenon which violates all principles formulated by man, which he has studied and discovered in his Earthly environment.

Every planet, cluster of stars and planets, and galaxies all rotate around, upon the axes and revolve in their orbits in a translational motion. Certainly, the entire universe is in translational motion around a remote center beyond human imagination. Conventional science knows neither little nor much about this center. Though man



has been able to unravel some of the principles behind the motion and dynamics of bodies upon the Earth, he still cannot fathom many of the secrets regarding the motion of nebula, planet, galaxies, star and comets. He does not cease to stray in his attempt at defining the causes and course of their motion and speed.

Even those phenomena which man observes upon the surface of the Earth and assumes to be stationary such as mountains, hills and seas, are in reality in continuous motion coupled with the two motions of the Earth; axial rotation and translational orbital motion, and its other motion (along with the Solar System). These systematic continuous motions which know no weariness, fatigue, nor interlude for everybody in this expansive universe are yet to be understood. This is nothing but glorification and submission to Allah, the Exalted and Able, Fashioner of the heavens, the Earth and all between them. This is because everything in the universe is subservient to the command of Allah, Magnificent and High is He. Everything submits to Him in the service of mankind to make easy his survival upon the Earth's surface. Allah says:

﴿لَا تَسْبِقُ يَوْمَئِذٍ الشَّمْسُ الْقَمَرَ وَلَا اللَّيْلُ سَابِقُ النَّهَارِ وَكُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"It is not for the sun to overtake the moon, nor does the night outstrip the day, they all float, each in an orbit." (Soorah Ya Seen 36:40).

He also says:

﴿وَهُوَ الَّذِي خَلَقَ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ كُلٌّ فِي فَلَكٍ يَسْبَحُونَ﴾

"And He it is who has created the night and the day, and the sun and the moon, each in an orbit floating." (Soorah Anbiya' 21:33).

Resulting from the orbital rotation of stars and planets is a centrifugal force which tends to preserve the stars and the planets within their orbit at fixed distances from it to the mother star (in the case of our Solar System, the sun). The factors that determine the continuous link of stars and planets to each other are as follows:

- ♦ The mass of the sun.
- ♦ Axial rotation of the sun.

- ♦ Gravitational force of the sun.
- ♦ Mass of each planet associated with the sun.
- ♦ The continuous axial rotation of each planet at definite speed, the centrifugal force of each planet and the intervening distance between the sun and each planet.

Despite the number of these factors and the great length of time for which they have operated (from the origin of the universe till date) estimated at billions of years, the sun, stars and planets have maintained their fixed courses. Neither defect nor error have they experienced (in their motion paths). This is because, in traversing their courses, they are subservient to the command of Allah, the Mighty and Sublime. They are not subservient to coincidence or arbitrariness. Any disturbance occurring to any of these astronomical bodies which (may) lead to the severing of the binding force between a sun and its planets, resulting from its explosion and shattering does not occur except by the decree of Allah, Glorious is He and most High, the One Who fashioned and created it. This will occur at the Day of Resurrection, the day when the universe will lose all equilibrium and all planets, stars and moons will be shattered by Allah's command, and the Earth will experience the promised violent convulsion and its buried dense material will come its surface. Thus, it loses equilibrium, its gravitational force and its position within the universe. Due to the axial rotation of the sun, its gases concentrate (at its center) and begin to form nuclei within it.

A tremendously strong gravitational force arises due to the enormous size of its mass which is about three hundred and thirty three thousand (33,000) times that of the Earth. It affects by its revolution, the gravitational force of all planets following it and it traps them within its orbit forming what is known as a Solar System. Solar radiation spreads out the force due to extreme energy emanating from the nuclear reaction in the interior of the sun. solar energy originates from the cleaving of helium atoms to form hydrogen atoms and without the continuity of the axial rotation of the sun the formation of solar energy would have ceased and not be renewed over time. Then the sun would have become a dead star several billions of years ago. It would have lost its gravitational force and all force between the sun and its planets



in space would have been broken.

These bonds between planet and stars which preserve their spatial positions in space and their orbits is what Allah, the Protector, the Mighty and Sublime, talked about:

﴿فَلَا أَفْسَدُ بِمَوْقِعِ النُّجُومِ ۖ وَإِنَّهُ لَقَسْرٌ لِّوَعْلَمُونَ عَظِيمٌ﴾

"So I swear by Mawaqe (setting of the mansion, etc.) of the stars (they traverse). And verily that is indeed a great oath, if you but know."  
(Soorah Al-Waq'ah 56:75-76).

Man, in his study of the spatial positions of the stars and the signs of Allah in the universe, alludes to the existence of a miraculous equilibrium between them. He alludes that the sizes of these stars and planets, their densities, their gaseous and mineralogical composition, their mass, energy and speed of orbit, and the tremendous and vast intervening distances between them are the result of the miraculous order, ordered (of course) by Allah the Blessed, the Exalted, the Wise, as a miraculous sign for all mankind till the day of judgment.

(A Muslim Astronomer).



GIANT GALAXY STRING DEFIES MODELS OF HOW UNIVERSE EVOLVED

## The Giant strings Theory

The heaven beautified by the Creator with lamps (i.e. stars, planets and galaxies) is only the Earthly heaven (first of the seven heavens) which we see from any position. Allah, the most High, says:

﴿وَلَقَدْ زَيَّنَّا السَّمَاءَ الدُّنْيَا بِمَصَابِيحَ وَجَعَلْنَاهَا رُجُومًا لِلشَّيَاطِينِ وَأَعْتَدْنَا لَهُمْ عَذَابَ السَّعِيرِ﴾

"And indeed We have adorned the nearest heaven with lamps and We have made such lamps (as) missiles to the drive away the Shaiatin (devils), and have prepared for them the torment of the blazing fire."  
(Soorah Al-Mulk 67:5).

If you are on the Earth's surface or within the Solar System or a galaxy, or outside it, you would observe it (the heaven) in different shapes and colors, though it is the same heaven (containing the same set of planets, stars and galaxies). The next Verse supports this





The Mandelbrot Set possesses several of the characteristics which would be required of the compact representation: it would have to reveal endless levels of detail (representing deeper theories), while capable of being expressed in a compact form:

$$f(z) = z^2 + C$$

understanding. Allah says:

﴿أَفَلَا يَنْظُرُونَ إِلَى السَّمَاءِ فَوْقَهُمْ كَيْفَ بَنَيْنَاهَا وَزَيَّنَّاهَا وَمَا لَهَا مِنْ فُرُوجٍ﴾

"Have they not looked at the heaven above them, how We have made it and adorned it, and there are no rifts in it." (Soorah Qaf 50:6).

The heaven mentioned here is in singular tense, thus the heaven which the Creator constructed and adorned is the one we observe above us. As regards other heavens which we understand from other verses, they are in layers. Allah, the Exalted, says:

﴿أَلَمْ تَرَ كَيْفَ خَلَقَ اللَّهُ سَبْعَ سَمَوَاتٍ طِبَاقًا﴾

"See you not how Allah has created the seven heavens one above another?" (Soorah Nooh 71:15).

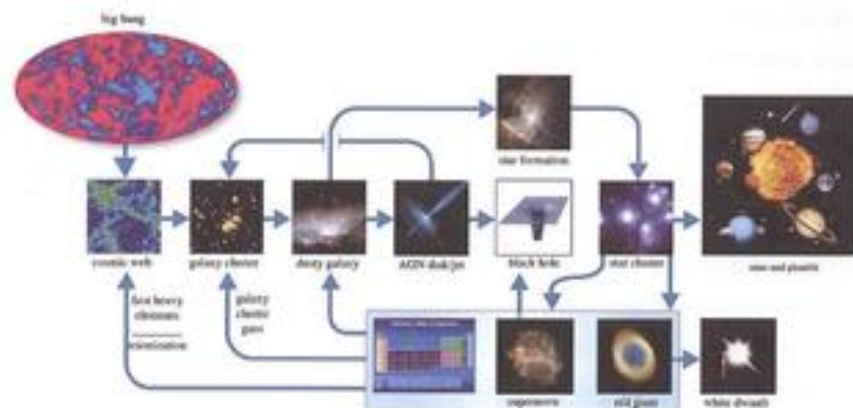
That is, they are outside the earthly heaven and envelope it, but we are not able to view them due to the vastness of the earthly heaven. To us on Earth, the earthly heaven represents the entire universe which we study and whose edge or end we are yet to reach, so as to be able to view what is beyond. Man has made giant strides in the area of science and technology particularly in the latter half of the twentieth century, and has succeeded in going beyond the Earth (i.e. into space). But do we expect that man would at anytime succeed in going beyond the earthly heaven i.e. beyond what we call the universe? The Noble Qur'an leaves the issue of the possibility of that occurring open. Allah says:



﴿يَسْمِعُ الْغَيْبِ وَالْإِنْسِ إِنْ أَسْأَلْتُمُوهُ أَنْ يُخْرِجَكُمْ مِنَ الْأَرْضِ وَنَحْنُ لَا نَسْأَلُهُ إِلَّا بِسُلْطَانٍ﴾

"O assembly of Jinns and men! If you have power to pass beyond the zones of the heavens and the Earth, then pass (them)! But you will never be able to pass them, except with authority (from Allah)." (Soorah Ar-Rahman 55:33).

Definitely, going beyond the limits of the heaven is something extremely difficult for man if it were possible in the first instance. However, we favor the opinion that the Jinns are those challenged to go beyond the heaven while mankind are challenged to go beyond the limits of the Earth. The difficulties which confront man in an attempt to go beyond the limits of the heavens have to do with the nature of his composition and creation. Man is created from matter and matter is a concentrated form of energy with a bulky mass. This is opposed to the other forms of energy ranging from light to heat. This mass requires force to increase its speed and the force requires a continuous work or energy to move its point of application from one position to another. In the range of speeds at which we travel on the Earth, be it lower or greater than the speed of sound, no difficulty is experienced in the transfer of the human mass from one position to the other. The amount of energy required for such remains within reach and is obtainable from petrol for example. In order to transcend the limits of the heaven or to carry out voyages within the universe, it requires that we travel



Giant strings Theory Cycles

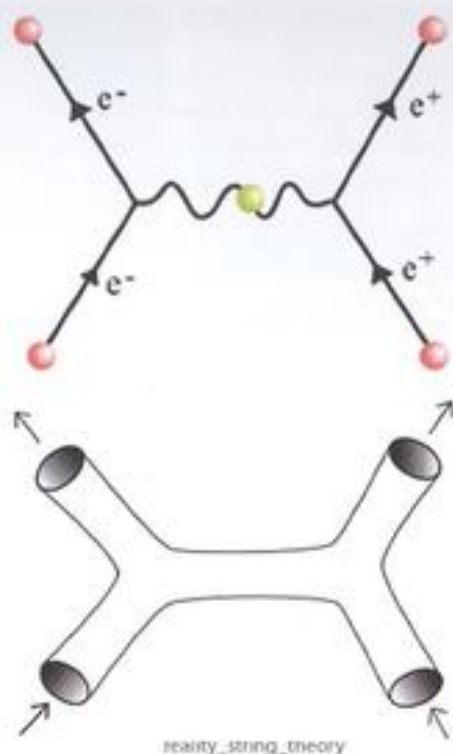


at speeds close to that of light otherwise our desire to reach our goal would wane before reaching the closest star to us. This is due to the enormous distance separating stars and galaxies.

We do not know of a limit to the universe, so how can we go beyond the universe if it has no end? Is there anything known as the velocity of escape from the universe similar to the escape velocity from the Earth's gravitation? What is the value of this speed? Science as of today is yet unable to answer our question and may not be able to answer them for a very long time to come.

Thus it is evident that going beyond the limits of the heavens (seven heavens) is virtually impossible. All that is left is the possibility of visually observing its limit with the aid of instruments i.e. viewing the farthest parts of the universe while he is resting and recreating on his Earth and enjoying the warmth of his planet.

As of today, despite the strength of instruments invented by man, he has not been able to reach the farthest parts of the universe. The farthest he has gone is to observe relic radiations which fill the entire universe and emanate from all directions. It is possible that these relic radiations are one of the signs of the limits of the heaven (Earthly heaven), however, we still do not know of any beginning or end of the Super Strings (universe). The Super Strings theory proposes that fundamental particles are made of components which are elongated and are not particles which occupy the extent of a point element in



space, similarly to the theory of particles.

These elongated components appear as though they are delicate endless strings that may possess ends and are referred to as open strings. They could also close upon themselves forming closed rings. The motion of this string in space or its temporal effect is one which presents a level surface, i.e., a regular surface, when the string is a closed one. These surfaces are referred to as surfaces of the universe. These super strings possess another peculiarity: it is possible to join together the components of a single string. For example, it is possible (for a string) to cut off and divide to form two strings and the motion of particles could be likened to waves which move through the entire length of the string. Likewise, the fission and fusion of bodies can be likened to the cleaving and joining of a string. As an example likewise, the gravitational force between the Earth and the sun can be explained in physics as the emanation of the gravitation from the sun inter-twining with other particles in the Earth in the shape of (H). The principal parts of this resemble the strings and particles in the Earth and the sun. The horizontal part (i.e. of the [H] shape) represents the path of the gravitation between them. We may now ask: "What is the relationship between the super string theory and the seven heavens?" The answer is "In a particularly extraordinary way, the mathematical solution regarding this theory of super strings requires the existence of ten dimensions. We all know that if we travel forward and backward, that represents one dimension, when we move right and left, that is the second dimension, and when we move up and down, we have a third dimension. Any shape e.g. a car or house can be described by these three dimensions (length, breath and height). After the discovery of the theory of relativity a fourth dimension was added to these three spatial dimensions. This means that in our existence in this universe under the earthly heaven we live in four dimensions, three spatial dimensions and a fourth temporal dimension. So where are the remaining six dimensions?"

Physicists are perplexed and unable to answer this question. They have proposed an answer to this question which says: "The remaining



six dimensions are wrapped within these strings (super strings) in a domain whose size is less than  $10^{18}$ th of a millimeter. The result of this extreme minuteness is that we neither see nor notice these dimensions. However, till date, no proof of this proposal has come to the fore. So, why are these six dimensions folded into extremely narrow domains while the other four are not? Is it possible to have another explanation? Rather than being extremely minute, it is possible that they are extremely large i.e. they exist outside the universe or the earthly heaven. In this state (due to their extremely large size) we would also not see them because they are beyond our universe.

The number of heavens above our earthly heaven is six, and the number of the remaining dimensions which physicists are searching for is six. Is it possible for every heaven above our earthly heaven represents each of these dimensions? Fortunately, the mathematical solution permits the repetition of a dimension or more in other universes.

It is possible that we notice the time factor in these heavens and we may not. It is also possible that only one or more spatial dimensions exist in each of these universes. If the factor of time vanishes in any of these universes or in all of them, then life within them becomes eternal and unending. Also, if any of the spatial dimensions vanishes in these universe, then life becomes impossible therein for beings of our shape (i.e. three dimensional). It then becomes mandatory that we transform into flat (planar) beings which can exist in a two dimensional space or into beings like flying arrows which only moves in one dimension, for example rays of light. These assumptions and propositions (theory) lead us only to science fiction. However, the hypothesis that the six dimensions exist beyond our earthly heaven is not more fictitious than that super strings. And Allah, the Exalted, knows best.

(A Muslim Astronomer)



Origin of life on Earth



DNA MODEL

## Trapping Wind

Changing non-living thing to life  
from using radiation

Dr. Muslim Shaltoot,  
Professor of Space Science and Technology.

What is life? What are the conditions which lead to its emergence? Where do these conditions exist? Do these conditions continue to abound? What is the assumed theoretical estimate for the origination of life? From where did the first life form originate? Or did it evolve at different places in the universe each one in a distinct form?

These were the questions which preoccupied

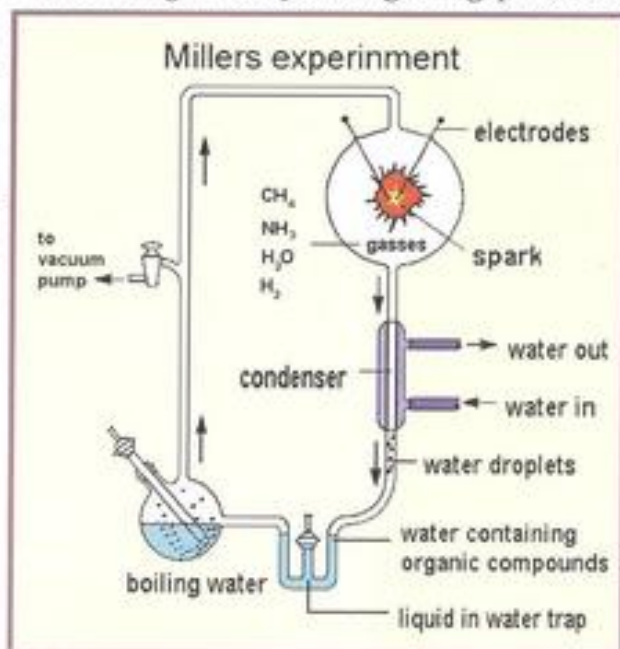


the minds of biologists in the West at the onset of the 20<sup>th</sup> century. This is the foundation of the belief that life originated by chance via the transformation of non-living matter to living beings without the intervention of any supernatural power, for which scientists attempted to establish proof.

In 1938, two German scientists Jarut and Zeus attempted to perform an experiment with the goal of turning non-living matter to living matter by focusing radiation beyond the ultraviolet range upon a mixture of gases (consisting of two different gases, carbon dioxide and water vapor). After a while they observed the formation of formalin and glucose, two components strongly linked to the living system.

In 1953, the American scientist Miller, performed a similar experiment in Chicago, he composed air similar to the Earth's atmospheric envelope at the onset of its formation (i.e. as it was billions of years ago) by mixing water vapor with ammonia, methane and hydrogen. He placed the mixture in a closed vessel, and then he exposed the vessel to a continuous barrage of electric charges. He reported lightnings sparks such as those occurring

in the Earth's atmospheric envelope. After a week the experiment commenced, Miller found amino acids at the bottom of the vessel. Subsequently, several scientists performed similar experiments and succeeded in converting the amino acids to form large protein



Origin of life

molecules i.e. components not found except in living things.

The German scientist and Nobel laureate Manfred Eigen established the principal conditions for experimentation which resulted in estimations of the probability of the origination of proteins under any specific set of conditions and from there, to the possibility of the emergence of a life cell in the first stage of its formation. Eigen found that the diversity of hidden components within each organ represents a strong difficulty, indicating that the possibility of existence of the necessary factors for evolving life by chance is so small that it cannot even be imagined.

In 1972, the German Scientist, Kaplan, described the probability of combination of necessary proteins (for the formation of life) by chance as being so weak that it cannot be imagined. For example, if there is a chain made of one hundred rings of amino acids; the probability (as postulated by Kaplan) is not greater than 1 in  $10^{129}$  parts. If we know that the number of atoms in the entire universe, do not exceed  $10^{79}$ , then we appreciate the minuteness of the probability of life originating anywhere in the universe by chance.

Based on the computational estimates by Kaplan, two British astronomers and specialists in the matter intervening between stars, Sir Fred Hoyle and his colleague Shandra Wikramson proclaimed that the probability of life originating by chance is an extremely difficult thing such that it is not possible in a domain as small as the Earth. The relatively young age of the Earth (roughly 4.5 billion years) compared to the age of the universe which exceeds 14 billion years is insufficient for the probability of origination of life by chance. They assumed the entire universe to be the experimental domain for changing non-living matter to life form spontaneously. The result is the same as that arrived at by Kaplan and that is that the probability of life originating by chance by transformation of non-living matter to life form is extremely minute and can hardly be imagined. They eventually agreed that there must necessarily exist a great supernatural non-material power behind the origination of life in the universe. This great supernatural power





is Allah, Glorious is He and most High, the Only Deity. One without associate in dominion, without parent or child ... Allah said in His Noble Book:

﴿وَيَسْأَلُكَ عَنِ الرُّوحِ قُلُوبُ الْغَايِبِ ۖ قُلِ الرُّوحُ مِنْ أَمْرِ رَبِّي وَمَا أُوتِيتُمْ مِنَ الْكِتَابِ إِلَّا قَلِيلًا﴾

"And they ask you (O Muhammad) concerning the Rooh (the Spirit); say: 'The Rooh: it is one of the things, the knowledge of which is only with my Lord. And of Knowledge, you (mankind) have been given only a little.'" (Soorah Al-Isra 17:85).

### Evolution from Space

Based upon this (the aforementioned conclusions), the two German scientists published their book titled *Evolution from Space* in 1981. It was translated into Arabic in 1989 under the titled "*Al-Budhir Al-Kauniyyah*". This book attempts a revival and modification of the theory of evolution from space proposed by the Swedish scientist Arrhenius in 1907. This theory refutes the theory of origin and evolution proclaimed by Charles Darwin during the nineteenth century. It states that the development of living systems on Earth was a subject of the effect of factors from the universe and that the complexity of life system points (according to analysis in the last quarter of the twentieth century) to a Great Power such as Allah, the Glorified and Exalted, by establishing that the majority of biochemical complexes in life forms were actually in existence at the time of formation of the oldest rocks on the surface of the Earth.

Therefore, the oldest evidence, which dates back to remote times contain no indication of how the first components of life formed. Thus the theory of evolution lacks credible bases according to the opinion of Hoyle and his colleague. Also, life had evolved to a known level in space prior to the formation of the Earth over a long period of time.

### Life in space!

In the eighties, it became clear that matter in the universe beyond our Solar System contained a lot of organic particles, often with high complexities. This is why bio-astronomists concentrated their efforts on



researching for the location or locations of origination of life. They looked at places within the universe where temperatures are between minus twenty-five (-25 °C) degrees to sixty (60°C) degrees and in which the atmosphere is free from oxygen or very deficient thereof. They found that the presence of water or water vapor at any location in the universe is the singular most important condition for the emergence of life. Allah, the Magnificent, says:

﴿وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ﴾

"And We have made from water every living thing." (Soorah Anbiya' 21:33).

And:

﴿وَاللَّهُ خَلَقَ كُلَّ دَابَّةٍ مِنْ مَّاءٍ﴾

"Allah has created every moving (living) creature from water." (Soorah Noor 24:45).



Life scientists believed that the volcanoes of the Earth emitted their gases about four billion years ago containing water vapor which condensed above the Earth's surface forming the primordial broth. Then particles of carbonic compounds formed and continued to increase in complexity.

The theory of life originating from comets has been known for several years before presently becoming acceptable and it has its own valid arguments. This made scientists admit that the origin of life was from space, possibly through comets which hit the Earth in the past and supplied it with water. Comets are regarded as mountains of ice which contain cosmic carbon compounds. The dominant theory amongst bio-astronomists today is that life and water originated from space via comets. Allah, the Magnificent, says:





﴿وَأَنزَلْنَا مِنَ السَّمَاءِ مَاءً طَهُورًا﴾

"And We send down pure water from the sky." (Soorah Al-Furqan 25:48).

The famous Halley's comet has visited us twice in the twentieth century, first in 1910 and then in 1986. It visits us every seventy-six years from the fringe of the Solar System. German scientists discovered in an important ring which their spacecraft Giotto penetrated in 1986, the presence of molecules of cyanides of hydrogen in the core of Halley's comet. Its concentration corresponded to that of cosmic matter, between stars. This was why the study of Halley's comet at close proximity in 1986 was of great significance at the American Observatory for the Study of Infrared



Radiation in Hawaii. Studies indicate the presence of methane, ethane, acetylene, alcohol, formaldehyde and hydrogen cyanide in the comet. Scientists also discovered carbonic acids using radio waves. This suggested the possibility of the presence of amino acids, which is the primary building component of life and proteins. This is because this acid reacts with nitrogen molecules to form amino acids particularly glycerine which is considered the simplest form of amino acid. This concurs with scientific facts about the universe discovered recently in the age of incursion into space and one of the significant things on the heels of the twenty-first (21st) century. Qur'an Allah, the Magnificent, says:

﴿قُلْ أَنزَلَهُ الَّذِي يَعْلَمُ الْغَيْبَ فِي السَّمَوَاتِ وَالْأَرْضِ﴾

"Say! 'It (this Qur'an) has been down by Him (Allah, the real Lord of heavens and Earth) Who knows the secrets of the heavens and the Earth.'" (Soorah Al-Furqan 25:6).





Black Hole

## Al-Jawaril Kunnass (The Receding Planets)

Allah, the Exalted, says:

﴿لَا أُقْسِمُ بِالْخَمِيرِ ۝ الْيَوْمِ الْكَلْبِ﴾

"So verily, I swear by the planets that recede (i.e. disappear during the day and appear during the night). And by the planets that move swiftly and hide themselves." (Soorah At-Takweer 81:15-16).

Allah, Glorious is He, swears -- and He need not swear to His servants -- by a fact not known to scientists except a few years ago: The

phenomenon of Black Holes. These are gigantic stars which concentrate naturally at the centers of galaxies and are regarded a heavy center for the galaxies. They are composed of extremely dense material, (the density of which) the human intellect can hardly imagine. Matter is crammed in these black holes such that the distance between the components of the atoms, most of which is empty space vanishes. The size of the matter within it is extremely minute. When the spaces between the fundamental components of the atoms vanish, its size becomes extremely minute till it is virtually nonexistent. With the cramming of the matter within the gigantic star, its gravitational pull becomes unimaginable such that even light cannot escape therefrom. Then, the star and the heavy core of the galaxy become the larger part of the galaxy's mass. This is because everybody within the galaxy is held by the gravity of the black hole as a heavy core for it.

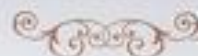
In order for a Black Hole to form, its mass must be pressurized and it is in equilibrium with the universal speed or the speed of light. As an example, a star the size of the sun that measures in diameter one million, three hundred and ninety-two thousand kilometers requires to be pressurized and squeezed to a diameter of only three kilometers in order to form a Black Hole.

As for *Al-Jawaril Kunnass* linguistically it means *Khanasa* also meaning concealed or hidden. But why the repetition here? What is its meaning since it is not for affirmation (of what was in the previous verse)? This is why I believe that its meaning here (in this Verse) is from *Al-Kans*, i.e., one which sweeps through the plane of the sky and not one which hides.

(From *Ayat Al-'Ijaz fi Al-Qur'an Al-Karim* -Dr. Zaghoul An-Najjar, see Black Hole, page 262).







## The Milky Way: Our Galaxy

Allah, Most High, says:

﴿يَوْمَ نَطْوِي السَّمَاءَ كَطَيِّفٍ لِّلْكِتَابِ كَمَا بَدَأْنَا أَوَّلَ خَلْقٍ نُعِيدُهُ وَعِندَ عَلَيْنَا إِذَا كُنَّا فَاعِلِينَ﴾

"And (remember) the day when We shall roll up the heavens like a scroll rolled up for books, as We began the first creation, We shall repeat it, (it is) a promise binding upon us. Truly We shall do it." (Soorah Anbiya' 21:104).

This is a Verse which recounts to our ears and intellect the issue of the beginning of creation and its end, the importance of our existence and the existence of the entire universe. The general understanding we

obtain here regarding the origin of creation is the origin of the universe with all that it contains. Things which we see with our eyes such as galaxies and those we do not see, not even with the most powerful telescopes and microscopes; those things we know or have arrived at via logic and computation and those which we still know not (despite logic and computation), which still remain mysteries of the beginning of creation which we comprehend from the Verse:

﴿يَوْمَ نَطْوِي السَّمَاءَ كَطَيِّفٍ لِّلْكِتَابِ كَمَا بَدَأْنَا أَوَّلَ خَلْقٍ نُعِيدُهُ وَعِندَ عَلَيْنَا إِذَا كُنَّا فَاعِلِينَ﴾

"And (remember) the day when We shall roll up the heavens like a scroll rolled up for books, as We began the first creation, We shall repeat it, (it is) a promise binding upon us. Truly We shall do it." (Soorah Anbiya' 21:104).

This universe whose dimension is over twenty billion light years and whose mass is greater than  $10^{55}$  kilograms will appear in the Hand of its Creator as the pages of a Book appear in the hand of a reader!







Definitely, this is a marvelous similitude requiring that we pause to contemplate and think about it.

He informs us firstly that: No matter how much the universe expands and its content proliferate and its weight increases, it will never be too big or uncontrollable for its Creator. Rather, He shall roll it up with all ease just as the owner of a scroll easily rolls up its page. (Allah), the Honored, reaffirms this fact to us in another verse wherein He said: "Verily that is easy for Allah." Allah says:

﴿أَوَلَمْ يَرَوْا كَيْفَ يُبْدِئُ اللَّهُ الْخَلْقَ ثُمَّ يُعِيدُهُ إِنَّ ذَلِكَ عَلَى اللَّهِ يَسِيرٌ﴾

"See you not how Allah originates creation, then repeats it. Verily, that is easy for Allah." (Soorah Al-'Ankaboot 29:19).

And in another Verse:

﴿وَهُوَ الَّذِي يَبْدَأُ الْخَلْقَ ثُمَّ يُعِيدُهُ وَهُوَ أَهْوَىٰ عَلَيْهِ وَلَهُ الْمَثَلُ الْأَعْلَىٰ فِي السَّمَوَاتِ وَالْأَرْضِ وَهُوَ الْعَزِيزُ الْحَكِيمُ﴾

"And He it is who originates the creation, then will repeat it (after it has been perished), and this is easier for Him. His is the highest description in the heaven and in the Earth. And He is the Almighty, the All-Wise." (Soorah Room 30:27).

Secondly, He presents us with a similitude of the universe being similar to flat pages. It is possible for the universe to actually be flat; this is the situation between two conditions; between a closed universe and an open one when the density of the universe is equal to critical density. This is what a great number of astronomers have affirmed. It could also appear to us flat (planar), though it really is not, as a result of its enormous size and volume, just as the Earth initially appeared flat to its inhabitants prior to the discovery that it was spherical. Here we see the extent of similarity of the universe to the page of a scroll, a flatness which we see from all angles such that we actually think it is flat as the flatness of pages.

Thirdly, he calls our attention to the issue of the shrinking of the universe and its inward collapse, a similitude to the rolling up of pages



of a scroll. The marvel of this similitude is extraordinary: a description that could not have emanated except from the one All-Wise All-Knowing, the One Who created the universe. After the expansion of the universe to its present size or to any future size, the Creator shall roll it up along with all its contents and this huge and expansive universe shall return to its primordial state. As though we were viewing a film of the expansion of the universe in rewind mode; we observe its stars continuously coming close to one another and its galaxies squeezed together and its size diminishing and the universe rolling up to its primordial state.

Thereafter (in the first Verse) comes a reaffirmation that this was how creation commenced and so shall it return to its original state:

﴿كَمَا بَدَأْنَا أَوَّلَ خَلْقٍ نُعِيدُهُ وَعْدًا عَلَيْنَا إِنَّا كُنَّا فَاعِلِينَ﴾

"As We began the first creation, We shall repeat it, (it is) a promise binding upon Us. Truly We shall do it." (Soorah Anbiya' 21:104).

This was the decision of the Creator before the origin of the universe, that He would one day return it to its original state, nothing more than a point with infinite density and temperature, or to something known only to Him.

The process of shrinkage and inward collapse of the universe upon itself, a tremendous collapse to a primordial point, is the closest explanation which science can presently offer for the rolling up of the universe or the heavens to its primordial state. In addition, there are some observations we need to make:

**First:** The scientific or human interpretation of the process of the shrinkage, followed by the tremendous inward collapse (of the universe), is the reverse of what man sees or pictures of this enormous phenomenon in regards to force and violence, whose level and energy are extraordinary. Man is a creature above this planet (Earth) which is one of the planets trailing the sun, a sun just one of the billion of stars on the wings of a galaxy, and a galaxy just one of the billion of galaxies in the universe! He pictures this while trying to describe



the end of this universe and its contents. From another viewpoint, we observe the expression of the Qur'an of the rolling up of the heaven or the universe is a calm (and easy) endeavor which the strength of the Powerful Creator accomplishes. The end of the entire universe relative to Him (the Creator) is nothing more than the likes of easy and trivial endeavors which we perform daily, such as rolling up a few pages. It poses no difficulty to the Creator, just as rolling up pages poses no difficulty to us.

**Secondly:** The scientific explanation of the end of the universe as a process of shrinkage and collapse assists us in understanding the Verse; the explanation of the rolling up of the heaven and the return of the universe to its original state. Furthermore, we find a great concurrence with the text of the Qur'an. This does not imply that this is the only possible explanation of the Verse. The Divine rolling up of the universe could be in the form of a shrinkage process and a collapse, or could happen in another form we know of or which we do not know of. So is the length of time of the rolling up process. It is possible that it is the same length of time which the shrinkage and collapse process will take or the length of time it took to expand (the universe), i.e., roughly fifteen billion years. It may also be longer than that or shorter and it may occur in less than a second.

Allah, the Exalted, says:

﴿وَنُفِخَ فِي الصُّورِ فَصَعِقَ مَنْ فِي السَّمَوَاتِ وَمَنْ فِي الْأَرْضِ إِلَّا مَنْ شَاءَ اللَّهُ ثُمَّ نُفِخَ فِيهِ أُخْرَىٰ فَإِذَا هُمْ بِنُظُرٍ ۝٥٨﴾

"And the trumpet will be blown and all who are in the heavens and all who are on the Earth will swoon away, except him whom Allah wills. Then it will be blown a second time and behold, they will be standing, looking on (waiting)." (Soorah Az-Zumar 39:68).

The universe -- or you may call it space and time -- both are two creatures created by Allah and never disdain to fulfill the regulations of subservience and perfect alliance to their Creator. The Creator of the heavens is capable of repeating their creation or creating similar ones (heavens) in the same form or different forms in the same time (frame)

or at other times.

﴿أَوَلَيْسَ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ بِقَدِيرٍ عَلَىٰ أَنْ يَخْلُقَ مِثْلَهُمْ بَلَىٰ وَهُوَ الْخَلَّاقُ الْعَلِيمُ ۝٨١﴾

"Is not He, Who created the heavens and the Earth Able to create the like of them? Yes, indeed! He is the All-Knowing Supreme Creator." (Soorah Ya Seen 36:81).

Then necessarily, we must accord the Creator of the universe Who shall definitely roll it up as the keeper of a scroll of pages rolls them with ease His due regard.

﴿وَمَا قَدَرُوا اللَّهَ حَقَّ قَدْرِهِ. وَالْأَرْضُ جَمِيعًا قَبْضَتُهُ يَوْمَ الْقِيَامَةِ ۖ وَالسَّمَوَاتُ مَطْوِيَّاتٌ بِيَمِينِهِ. سُبْحَنَهُ وَتَعَالَىٰ عَمَّا يُشْرِكُونَ ۝٦٧﴾

"They made not a just estimate of Allah such as is due to Him. And on the Day of Resurrection the whole of the Earth will be grasped by His Hand and the heavens will be rolled up in His Right Hand. Glorified be He, and High is He above all that they associate as partners with Him." (Soorah Az-Zumar 39:67).





## Possible scenarios of the Universe's end

Aurakhan Muhammad Ali, Istanbul

In the previous topic, we examined the most acceptable theory in scientific circles as of today about the birth of the universe, the "Big Bang" theory, which is based upon scientific discovery: the fact that the universe is constantly expanding at a great speed. Scientists say that all the material of the universe was initially concentrated at a point whose size was no larger than a dot and that it exploded and the material of the universe became spread in all directions and that the universe began expanding from then onward till date.

We pointed out the significance of philosophy to this theory. We said that it laid to rest the myth of the immutability of matter and the immutability of the universe, and established that the universe was created at a particular instant. As long as there was a creature, then there must be a Creator, because this gigantic explosion was like no other explosion. Every explosion leads to disorder, shattering and destruction whereas this explosion led to the formation of a highly systematic universe. Therefore, an infinite power and perfect knowledge which knows no limit has manifested in an apparent manner in this creation.

### Possibilities

- ◆ Will the universe continue to expand ceaselessly?
- ◆ Will the force of gravitational attraction eventually overcome the force of expansion of the universe? Or will the reverse be the case?

There are two possibilities in this regard:

**The first possibility:** The speed of expansion (of the universe) will gradually slow down due to the effect of gravitation and eventually stop. Thereafter the universe shall begin to return (i.e. shrink) in the

reverse direction i.e. all galaxies, celestial bodies and orbits shall be flung towards the center (of the universe). The universe will dwindle and shrink upon itself due to gravitational force until the entire universe returns to a single small point the size of a dot, i.e., it returns to its primordial state. The meaning of this is the death and annihilation of the universe (i.e. every life-form in it) well before it reaches that state.

**The second possibility:** The gravitational force will be unable to overcome the force of expansion of the universe i.e. the universe will keep expanding ceaselessly. Does this mean that this continually expanding universe will never experience death? Several causes but death is constant<sup>1</sup>.

Even under the second possibility, the Universe cannot escape the definite end of every creature, which is death. This is because; this expansive universe after expending all its fuel via the process of radiation taking place in all stars it will definitely die out. In this state the universe becomes like a tremendously gigantic cemetery devoid of any signs of life.

- ◆ However, what establishes that the gravitational force shall eventually overcome the force of expansion of the universe?

The answer to this question is: if the rate of expansion of the universe is such that galaxies are able to escape from the force of gravitational, then expansion shall continue endlessly. This is the example of an open universe.

If however, the speed of (expansion) of the universe is less than the escape velocity, the expansion will stop after a period and the universe shall begin to withdraw upon itself in a retrogressive manner. This is the example of a closed universe.

- ◆ What is the escape velocity?

This is the minimum velocity required to escape from the gravitational force of any place. For example, the escape velocity with regards to the Earth is 23.11 kilometer per second i.e. If you launch a

<sup>1</sup> This is an Arabic saying that there are several causes of death but all lead to the same thing, death.



rocket at this speed then it will be able to overcome the gravitation of the Earth and enter into space. If the speed of the rocket is less than this velocity then it travels a specific distance, stops and then begins to fall back to the Earth due to its being overcome by the gravitational force. Every star, planet or moon has its own specific escape velocity.

- ♦ Is the speed of expansion of the universe up to the escape velocity? i.e. is it greater than the force of gravitation in the universe or less?

This is an issue related to the present density of the universe. If this density is up to what is known as critical density, then it means that the gravitational force present in the universe shall in future be sufficient to halt the expansion of the universe. However, if it is less, then the universe continues to expand ceaselessly.

- ♦ Is the average density of the universe up to critical density?

Scientists have computed the value of critical density and found it to equal  $4.7 \times 10^{-30} \text{ g/cm}^3$ . This means that as long as the amount of matter in the universe is equivalent to three hydrogen atoms per cubic meter, then it would be up to critical density. They then computed the density of the universe and found it to be only a fraction of this.

- ♦ Does this mean that the universe shall continue to expand ceaselessly because its density is less than critical density?

We cannot say this for sure, because the amount of matter computed to be in existence in the universe is that which they were able to view with optical and radar instrument. There is an enormous amount of matter which is not included in their computation. For example, Black Holes, about which we know virtually nothing. There is also what is known as the missing matter in the universe. Scientists observe that the amount of visible matter in galaxies can never be sufficient to ensure the continued existence of these galaxies as a body. Rather it requires tens of multiples of this matter to remain coherent and in equilibrium. Therefore, the computed density of the universe is not its true density. The true density of the universe may be up to the critical density.

- ♦ What occurs in a closed universe?

The speed of expansion of the universe will apparently gradually begin

to diminish until it becomes zero, i.e., the expansion stops totally. Then the universe begins to race toward its center at a speed which increases with time. Eventually, no clear effect will be manifest, then everything will appear natural after billions of years.

But, what if the size of the universe becomes one-hundredth of its present size, such that the temperature of space (which is presently close to absolute zero), rises to the temperature of the Earth in daylight? After millions of years lightning flashes of the universe would attain an unbearable level and its temperature will rise to millions of degree. Before reaching this stage all forms of life will have perished and become extinct. Then the stars begin to melt within the universal broth made of parts atoms and radiation; a broth whose temperature reaches billions of degrees. Then the universe becomes smaller and smaller till its size is just that of a small point close to a dot and becomes a black hole i.e. it gets to a state of singularity unrelated to time and space such that the laws of physics do not operate therein.

However, some atheist scientists who see in this theory the bankruptcy of atheism, proposed a third possibility for the universe. A possibility of pulsation or oscillation. Summarily, this proposal states that the universe has been expanding eternally due to Big Bangs, then it shrinks and contracts upon itself, then it expands due to another Big Bang and so on. Thus here, the universe is eternal without a beginning or end. This theory has attracted and pleased atheist scientists who never want to accept the concept of Creator, resurrection or end of the universe. However, this example can neither stand before the discoveries of science nor before scientific facts. This is why we say it has been formulated suddenly (not due to systematic thought and study). Fortunately, it has met with total disregard within scientific circles, because science does not know of the ability of the universe to re-expand after shrinking into singularity. For example, to cite just one example which the universe shall become after its shrinkage: escape is not possible from a "Black Hole". What then of the entire universe? Another problem facing this example is that of Entropy. This states that in any process of conversion of energy from one form to another, a certain amount is converted to forms which become unusable. When





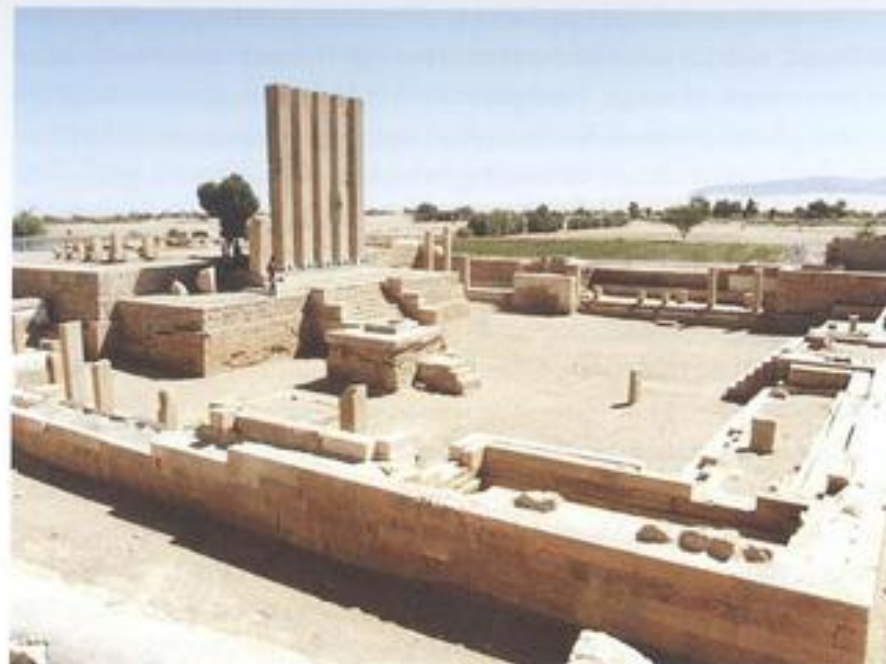
the universe reaches the state of singularity, there will not be any energy reusable, i.e., the universe cannot change from one position to another because there is energy available for the change.

Thus, whether there is an example of an open universe or a closed one, death is the eventual end which the universe awaits. This does not imply that the end of the universe shall be by one of these means (i.e. these two examples of open and closed universe) because the possible modes of the end of the universe are numerous and can fill an entire book.

This is in regards to the universe, but with regards to our planet, the sun and the Solar System, their ages are not as great as that of the universe. The age of the fuel in the sun is much less than the age of the entire universe.

﴿كُلُّ مَنْ عَلَيْهَا فَانٍ ﴿٢٦﴾ وَسَبْقَنَ وَجْهَ رَبِّكَ ذُو الْجَلَالِ وَالْإِكْرَامِ ﴿٢٧﴾﴾

"Whatever is on it (the Earth) will perish. And the face of your Lord full of Majesty and Honor will abide forever." (Soorah Ar-Rahman 55:26-27).



Moon\_Temple\_or\_Throne\_of\_Bilqis-Marib

## The throne of Bilqees (The Queen of Sheba)

Allah - the Most High - says:

﴿قَالَ الَّذِي عِنْدَهُ عِلْمٌ مِنَ الْكِتَابِ أَنَا آتِيكَ بِهِ قَبْلَ أَنْ يَرْتَدَّ إِلَيْكَ طَرْفُكَ فَلَمَّا رَآهُ مُسْتَقِرًّا عِنْدَهُ قَالَ هَذَا مِنْ فَضْلِ رَبِّي لِيَبْلُوَنِي أَأَشْكُرُ أَمْ أَكْفُرُ وَمَنْ شَكَرَ فَلَنَافِعُ لَهُ أَشْكُرُ إِنِّي عِنْدَ رَبِّي غَفُورٌ رَحِيمٌ ﴿٢٧﴾﴾

"One with whom was knowledge of the scripture said: 'I will bring it to you within the twinkling of an eye!' - then when Suleiman (Solomon) saw it placed before him, he said: 'This is by the Grace of my Lord - to test me whether I am grateful or ungrateful! And whoever is grateful, truly his gratitude is for (the good of) his own self, and whoever is ungrateful, (he is ungrateful only for the loss his own self). Certainly! My Lord is Rich (Free of all wants), Bountifully.'" (Soorah An-Naml 27:40).

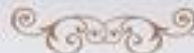




The story of Suleiman, peace be upon him, and Bilqees, the queen of Sheba, and the issue of the transfer of her throne is assumed by some as an example of magic: how possible is it for a creature to transfer the throne of the queen of Sheba in that age for such a great distance in less than a second, i.e., before the twinkling of Suleiman's eye? They say this despite the fact that it is one of the miracles which Allah made possible for Suleiman, peace be upon him. However, modern science tells us that this does not have to be magic! Its occurrence is possible within the sphere of science or at least from a theoretical view point of our capabilities within the twentieth century. But, how did that occur is the issue.

Energy and matter are two forms of the same thing. It is possible for matter to change into energy and energy into matter. This is according to known principle. Mankind has succeeded in converting matter to energy via atomic reactions which give rise to electricity (in nuclear reactors) even as his control over this conversion has continued to progress and develop in stages. He has also succeeded, although to a lesser degree in converting energy into matter via the particle accelerator, despite the fact that these have not progressed beyond the level of particles.

The conversion of matter to energy and energy to matter is something scientifically possible. Matter and energy are associates, and the possibility is not significantly hindered except by difficulty associated with its occurrence under present scientific and practical conditions. No doubt the easy attainment of scientific methods and appropriate practical means for the easy conversion of energy to matter and matter to energy require great advances in science and expertise skills. Our level of scientific and practical (technological) capabilities at present in this regard is no more than that of a toddler learning to read (when compared to what is required to make the conversion perfectly reversible). Whenever in future that mankind is capable of easily converting between matter and energy, the result shall be radical changes and in fact tremendous revolutionary changes in all spheres of daily life. One of the conditions is that energy can be sent to any place at the speed of light as micro-waves and then we convert it back to



matter! Thereby, we shall be able to send any instrument or even our entire building to any location we chose upon the Earth or on the moon or to Mars within a few seconds or minute.

The fundamental difficulty physicists envisage with regards to achieving this dream is the arrangement of the parts (of the atom) or atoms of matter in the exact original position; each atom in its former position before being converted to energy such that it can act as it originally did. Another significant difficulty which pre-occupies science as of today is the ability to capture electromagnetic waves; presently this does not exceed sixty percent due to dispersion of most of it in space. All these serve as obstructions in the face of the present position of science and its capability to convert matter to energy and vice versa.

Now, let us return to the issue of the transport of the throne of Queen Bilqees. Its logical explanation is that the one who had knowledge of the Book (be he a man or Jinn) as much as we know of today, first converted the throne of the Queen of Sheba into a form of energy (not necessarily in the form of heat energy similar to what we get from modern atomic reactions which has low efficiency). Rather to a form similar to electrical or light energy which can be transmitted as electromagnetic waves.

The second step is that he sent the energy from Sheba to King Suleiman. Since the speed of travel of electromagnetic waves is the same as that of light ( $300,000 \text{ kms}^{-1}$ ) then the time to reach Suleiman a distance of three thousand (3,000) kilometers away. The third and final step is that he converts the energy after arriving back to matter in the exact form it was, every part or atom returns to its former position!

Certainly, twentieth century man is incapable of accomplishing what this being with knowledge of the Book did over two thousand (2,000) years ago. The present capability of man does not exceed attempting to understand the explanation of what occurred. All that man has achieved in the twentieth century is the conversion of some matter (heavy elements) like uranium to energy by the fission of the atoms of these elements.

As for other nuclear reactions which occur via the fusion of the





atoms of light element such as hydrogen and helium and give rise to the energy of the sun and stars, man has not been able till present to achieve this. Until man is able to achieve the production of energy via atomic fusion, energy produced in the original form will not cease to be difficult to transmit over great distances without a dispersion of the greater half of it. The conversion of matter to microwaves by human presently occurs via a process which necessitates its conversion first to heat energy, then mechanical energy, then electrical energy and finally transmitted as microwaves. For this reasons we find that the greater half of the matter we started with is dispersed during these conversion, leaving only a small fraction which we can transmit as microwaves.

The capability to convert matter to heat energy, then to mechanical energy and to electrical energy does not exceed twenty percent. Until we surmount the deficiency of nuclear technology in the conversion of uranium to energy, then the fraction of uranium converted to energy remains very small. The greater half remains nuclear fuel which emits its energy over a period of billions of years, decaying eventually into lead. This is not the desired end results! In the final event, it is necessary to capture and collect all these waves and then re-convert it to energy and then to matter with every part, atom or particle in its original position. The capacity to gather all these radiation at present and convert it into electrical energy in the form it was transmitted does not exceed fifty percent, i.e., nothing will remain of the original matter after its conversion from matter to energy, its transmission as electromagnetic microwave, its capturing and conversion back to energy except ten percent. This is before performing the final step which is the conversion of the energy into matter. This final step, i.e., conversion of the energy into matter is the exact original form is what twentieth century man is yet incapable of. Therefore, we do not know the efficiency of completion of this final step. If we assume that under the best conditions, man can successfully convert fifty percent of this remaining energy into matter then what we achieve is less than fifty percent of the original matter we started with.

This means that, if we commence with the throne of Queen Bilqees, and we converted it by whatever means into energy, and then we



transmitted this energy as microwaves, then we re-captured it and converted it back to energy and then to matter, we would not have more than five percent of the throne of Queen Bilqees. As for the rest, it would have been dissipated during the several conversions according to the supportive efficiencies of these processes. This five percent of the throne of Bilqees is grossly insufficient to afford a re-construction of a small part of the throne such as the legs or arm rest of the Queen's throne.

The Verse of the Qur'an does not specify the personality of this one with whom was knowledge of the scripture. Was he a man or Jinn? A great number of the scholars of *Tafseer* have mentioned that the one who transported the throne of Bilqees was a man by the name of Aasif bin Burkhiya'u, who had with him the greatest of Allah's names by which if He is beseeched He responds. Perhaps the one who did this was an *Ifrit* (very strong) one amongst the Jinns.

Perhaps this Jinn succeeded in converting the throne of Bilqees into energy, then transmitted it over thousands of kilometers, then re-converted it to its original form (matter) exactly as it was before. All these in a second or in a several seconds if we consider the goal of the previous Jinn who intended to do same before Suleiman, peace be upon him, rose from his seat.

The level of knowledge and capability of either of the two Jinns about two thousand five hundred years ago is much higher than the level of knowledge, technical and scientific capability which twentieth century man has achieved.

(*Ayatul Qur'aniyyah Fi Miskhat Al-'Ilm* by Yahya Al-Mahjiri, with some modifications).





## CONCLUSION

### Allah's signs in the Heaven and the earth

#### Allah's signs in the Heaven and the Earth

﴿قُلْ أَنْظَرُوا مَاذَا فِي السَّمَوَاتِ وَالْأَرْضِ وَمَا تُعْنِي الْآيَاتُ وَالنُّذُرُ عَنْ قَوْمٍ لَا يُؤْمِنُونَ﴾

"Say, behold all that is the heavens and the Earth, but neither Ayat (proofs, evidence, Verses, lessons, Signs and revelations, etc.) nor warners benefit those who believe not." (Soorah Yunus 10:101).

#### The Universe

The Earth upon which we live is at a distance of ninety-two and a half million miles from the sun whose surface temperature is up to twelve thousand Fahrenheit, and the moon is a distance of two hundred and forty thousand miles away from us. These distances provide a suitable environmental condition for the life in the form that we know on the Earth. If the Earth were to approach the sun just a little bit, then all life on it will be charred instantly and all traces of life will disappear. And were the sun to recede away from it (the Earth) a little more, then all forms of life upon it will freeze and eventually die out.

Likewise, was the moon to approach (the Earth) a little, then the continents would be submerge by flood and all ebbs of life would be destroyed. Due to the gravitational force (of the moon) all mountains and hills will be uprooted and fly away (from the Earth) and all life will be ruined.

The Earth rotates upon its axis at a speed of one thousand miles per hour, i.e., at a speed (1,000 mi/h) equivalent to one complete rotation every twenty-four hours. If its speed were to decrease a little, the day would be prolonged with attendant dryness (heat), and the night also prolonged resulting in a freeze due to the winter-like effect (of night). Therefore, the factors (basic requirements) of life would diminish and

if continuous would vanish one after the other.

If the thickness of the Earth's crust were to increase a little, then the amount of oxygen would decrease and the possibility of life would diminish. If we assume that the thickness of the Earth's crust were to increase by ten feet, then life will vanish due the vanishing of oxygen. If the oxygen level were to increase a little, then life the world would go into extinction due to disequilibrium in the density of the atmosphere. Hence, all planets and cosmic bodies would tumble.

Those who live on the shores of seas and oceans or those have to reside close to them usually have to vaporize and then condense its water in order to remove the salt therefrom to make palatable for drinking. Often they would wish that this salt water body would be fresh water just as the waters of the rivers. Were their wish to come true and all the salt water become fresh, then it would have become putrid all through and life on Earth would have ended and become a desolate ruin. The water of the oceans and seas are stagnant bodies and the salt in them prevents decay or rot.

Take a look at the water cycle on Earth and you will find that it has been created according to measure and precision. The sun vaporizes the water of the seas and oceans (which is regarded as a repository whose stored water is not diminishable), it rises to cold layers in the sky, condenses in order to fall as fresh water flowing in rivers, watering plants and livestock, and filling the universe with life. Is this then by chance...?

Take a look at the rotation of the Earth about itself, its revolution around the sun and the inclination of its axis which is up to twenty-three degrees. See how the periods of the year are formed from biting winter to clement spring then to hot summer and an amiable autumn. Were the axis to be vertically upright, then the Earth would not rotate around itself. All drops of water vaporized from the oceans and seas would coagulate and fall upon only two delimited places in the north and the south. Continents would form of ice and summer and winter would be perpetual and all mankind, life and living thing would perish. Is this by chance?



## The Vastness of the Universe

Allah, Most High, says in His Honored Book:

﴿وَالسَّمَاءَ بَنَيْنَاهُ بِإِيمَانٍ وَإِنَّا لَمُوسِعُونَ﴾

"With power did We construct the Heaven. Verily, We are Able to extend the vastness of space thereof." (Soorah Adh-Dhaariyat 51:47).

The scientist (Balfon) says in his book titled *Science looks to Space*: "The universe is more extensive and larger than we used to imagine. The remotest parts of the universe are flung far off at frightening speed. Astronomers had concluded that space between stars are totally empty vacuums, but in reality they are filled with gases and different types of matter. There are clouds of gases in space which are as large as six billion miles.

The sun and planets revolving around it are recent phenomena time-wise according to astronomical calculations. For most of the revolving planets, their ages do not exceed three billions years."

Balfon also says: "The entire universe with the limitless variation in the sizes of its stars which are flung in all directions as though they were the splinters of a detonated bomb presents a picture which is difficult for a person to imagine without being dazzled and losing one's breath. What is more dazzling and breathtaking is the viewing of all these by this a minute creature known as man who lives on a splinter of a small star, in a miniature sphere of a galaxy not different from several millions of its kind. This being seeks to gaze at the ends of space but is limited. Then he exerts himself in order to understand the universe.

♦ Astronomers say: there are some stars and planets of these several billions -- those which can be seen with the naked eye and those which cannot be seen except with magnifying glasses and instrumentation. There are those which can be perceived by instruments without being seen. All these float in invisible orbits. There is no possibility of the magnetic field of a star coming close to that of another or the collision of one planet with the other except as the possibility of collision between a boat in a Mediterranean Sea and another in the Atlantic Ocean both traveling in the

same direction. This is a farfetched possibility if not totally impossible.

♦ Science proves that the speed of light is one hundred and eight-six thousand miles per second. There are stars whose emission of light reach us in minutes, some whose emission will reach us in months and some which have emitted their light (which we know using sophisticated instruments) millions of years ago and the light is yet to reach us. So, what is the breadth of the universe?

♦ The atmospheric envelope surrounds the Earth. Its thickness is about one hundred miles and is made up of a mixture of oxygen, nitrogen, carbon dioxide, water vapor, ozone and other gases mixed in definite proportions. Any change in these proportions (an increase or decrease) leads to the loss of life and living being.

♦ The atmospheric pressure reaches 14.8 rolls per square inch at sea level. This is the pressure that pushes oxygen through the lungs and then into the blood cycle so as to be distributed through all folded parts of the body. Any minute variation in this pressure results is a situation that may lead to death. From research it has been found that during high altitude flights, where the pilot rises above fifteen thousand feet, he experiences what is known as the blocking of the air artery. He dies when he reaches a height if twenty-five thousand feet. Glorified is Allah, the One Who perfected the creation of all things.

## Some of the contents of the universe

Allah says:

﴿أَفَلَمْ يَنْظُرُوا إِلَى السَّمَاءِ فَوْقَهُمْ كَيْفَ بَنَيْنَاهَا وَزَيَّنَّاهَا وَمَا لَهَا مِنْ فُرُوجٍ﴾

"Have they not looked at the heaven above them, how We have made it and adorned it, and there are no rifts in it?" (Soorah Qaf 50:6).

♦ Al-'Allamah Sinka said: "A person cannot raise his sight to the high heavens without lowering them to the splendor and out of sobriety, when he sees the millions of brilliant glowing stars and he watches their movement in their orbits and the mansions they traverse. All stars and any planet, all nebula and any roaming body, is a separate world on its own larger than the Earth, its contents and what surrounds it.



## The Earth

- ◆ The Earth is one of the planets which revolve around the sun following it (the sun) in its voyage. It is the fifth planet in terms of size and the third (in terms of proximity to the sun) of nine planets which constitute our Solar System.

- ◆ The Earth is nearly a sphere except that it is slightly dented (flattened) at the poles and bulges at the equator. Its polar diameter is estimated at seven thousand nine hundred miles while its equatorial diameter is nine thousand seven hundred and twenty seven miles. Its polar circumference twenty-four thousand two hundred and twenty miles while its equatorial circumference is twenty-four thousand nine hundred miles.

- ◆ Its surface area is about two hundred million square miles. Dry land covers about fifty million square miles while roughly one hundred and fifty million square miles is covered by water.

- ◆ It rotates (carrying us along) about itself once every twenty four hours. Anyone in the tropic area therefore moves at an average speed of one thousand miles per hour or sixteen miles per minute.

- ◆ It revolves around the sun in its orbit (which is up to five hundred and eighty million miles). Thus its average speed in this motion is up to sixty thousand miles per hour or about one thousand miles per minute. The entire Solar System with the Earth covers distances in space at a speed not less than twenty thousand miles per hour, i.e. greater than three hundred miles per minute in the direction of Hercules constellation.

- ◆ As for the age of the Earth, man has been trying to predict it for a long time. In the seventeenth century, Bishop James Arthur said: "The world began on the twenty-sixth of October, four thousand and four years, before the birth of Christ." In one of the books of Hindu religion, the age of the world is 1,972,949.56 years. In modern times, effort has been commenced by astronomers in observatories to obtain the most precise value of the age the Earth. Eventual reliable

estimate from the observatories indicate the age of the range of about 54,000,000,000 years and the relative error in this estimation is about twenty percent.

## The Sun

The sun is a sphere of burning gases whose age is five billion years and has a diameter of greater than  $1.3 \times 10^6$  kilometers. Its circumference is three hundred and twenty times that of the Earth and its weight three hundred and thirty-three times that of the Earth. Its internal temperature is up to twenty million degrees ( $20,000,000^\circ\text{C}$ ) though its surface temperature is only six thousand degree ( $6,000^\circ\text{C}$ ).

- ◆ Its surface spits out flames which rise to about half a million kilometers dispersing energy in space at a continuous rate of one hundred and six seven thousand four hundred horse power per cubic meter ( $167,400 \text{ hp/m}^3$ ) and all that reaches the Earth thereof is only one part in two million ( $1/2,000,000$ ). And it (the sun) is considered only a small star and not one of the giant stars.

- ◆ On its surface, there are very strong electrical and magnetic storms. One of the bewildering issues for scientists is that the sun as understood from the knowledge of the layers of the Earth has not ceased to radiate the same quantity of heat for millions of years. No doubt, the form of combustion taking place in it is different from that with which we are acquainted or familiar, otherwise, six thousand years would have been sufficient to combust and exhaust its heat. Some think that the meteors and meteorites falling onto its surface replenish what is lost via radiation of heat.

Eventually, it has become clear that the process which gives rise to the heat of the sun is the conversion of its fuel, hydrogen which is abundant in the sun and in other stars, to helium. This occurs via a chain of intricate nuclear reactions, which gives rise to unimaginably tremendous amounts of energy.

Dr. Thomas Gold (deputy director of the Center for Radio-Physics and Space Research) has declared that an explosion occurred within the sun on the thirteenth of February, 1956, equivalent to the combined force (energy) of millions of hydrogen bombs. This explosion resulted





in the hurling of heavy showers of cosmic radiation toward the Earth. In his explanation he said: "The rise in cosmic radiation commenced at 3.45 am Greenwich time and lasted roughly two hours. The increase experienced by the Earth is regarded as the largest in history."

He describes the explosion as having occurred in a zone (of the sun) greater than the surface area of the Earth and the strength (of the explosion) was so strong that human imagination cannot contemplate its (resulting) cosmic radiation. The body of every man, woman, child and any living being received double the normal amount of radiation coming from any direction of the universe.

However, the Harvard Observatory broadcasted an explanation in which Dr. Donald Mitzel, its director, said: The explosion which occurred in this sun has been recorded on films using a conograph, an instrument for recording heat radiation and light radiation emanating from the Earth. It shows that the force of the explosion is equivalent to one hundred million (100,000,000) hydrogen bombs detonated at once and that it is greater than the Earth's gravitational force by over a thousand times. Allah, Most High, Knows best, and is the Most Wise.

*[Allahu wal-lin al-Hadeeth by Abdur-Razzaq Naufal]*









# الإعجاز العلمي

## في الأرض وفي الفلك باللغة الانجليزية



Every Prophet had a miracle which he showed to his people and challenged them with. Some of the Prophets even had more than one sign as a definite proof that they were sent by Allah; challenging their nations to bring anything similar to it if they denied it. Every sign given to any of the Prophets was exclusively meant for his people and when he died, his signs ceased to exist.

However, one such miraculous sign shall remain, complete and preserved with the command of Allah, until the Day of Resurrection. This miracle is the inimitable Qur'an, the everlasting Book of Allah given to Prophet Muhammad (peace and blessings be upon him). Anyone who lives after the death of this Prophet of Mercy will be able to see it, read it, and realize for themselves the truth that it contains.

Who was the teacher who taught Prophet Muhammad the scientific facts described by the Qur'an? Did he possess tools of scientific research that enabled him to discover all that? Did he have airplanes and rockets that enabled him to discover what was beyond the sky?

The answer is that He possessed such knowledge that could never be affected by falsehood because it is the word of God. All that he informed us - of the past and present signs in the Universe and within ourselves - has been discovered by science as proven fact, and no doubt, the future signs will be discovered, just as he predicted.



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